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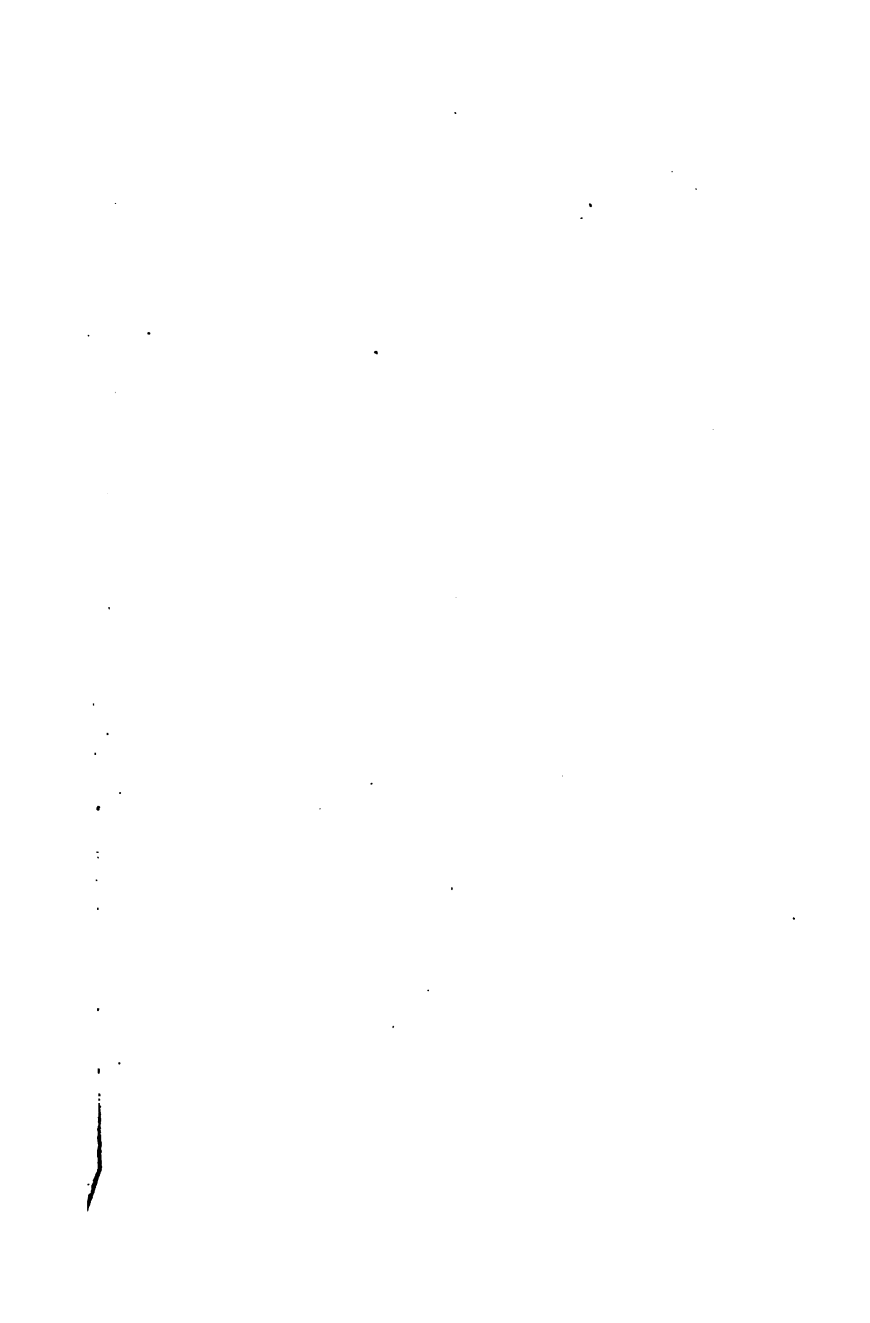
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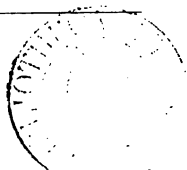
LESSONS ON THE HARMONY AND CONTRAST  
OF COLOURS,

PRINCIPALLY IN THEIR APPLICATION TO PHOTOGRAPHY.

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*Reprinted from the "Photographic News."*

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LONDON:  
CASSELL, PETTER, AND GALPIN,  
LA BELLE SAUVAGE YARD.

1859.

170. m. 67.



LONDON:  
PETTER AND GALPIN, BELLE SAUVAGE PRINTING WORKS,  
LUDGATE HILL, E.C.



## PREFACE.

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COLOURING has been said to be "the sunshine of art, that clothes poverty in smiles, and renders the prospect of barrenness itself agreeable, while it heightens the interest, and doubles the charms of beauty." The reproduction of objects in their natural colours, by means of the camera, is a subject which has occupied much of the attention of many of the most illustrious pioneers of photography; but, as yet, without definite result. Until that problem is solved, to give photographic portraits their full value as *likenesses*—to give them life and individuality—the photographer must have recourse to the art of the painter. We purpose, therefore, in the following pages, to give the simplest and most efficient mode of colouring positives on glass and paper, in photographic powder colours, water colours, and oil colours, so as to produce satisfactory and artistic results.

In order that our work may be a manual for the amateur as well as the professional student, we shall begin at the beginning, and endeavour to make the matter clear to the most uneducated capacity: premising, however, that whilst much is possible to steady perseverance, there is not here, as there is not in any of the arts, any royal road to success. To obtain perfect results will require the constant exercise of a careful hand, a practised eye, and a cultivated judgment.

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# HOW TO COLOUR A PHOTOGRAPH

## IN OIL OR WATER.



### THE RELATIONS AND HARMONY OF COLOURS.

BEFORE proceeding to the manipulatory details of the various methods of using colours, it is important to know something of their relations and contrasts, and of the principles on which harmony is based. This knowledge is a first requisite to the colorist, for, whilst a good eye will sometimes enable him instinctively to produce good results, yet, without some familiarity with the laws which govern harmonious colouring, anything like entire or uniform success cannot be hoped for. Even to imitate the colours of the original satisfactorily, this knowledge is desirable; whilst to produce a picture which shall please and soothe the eye by its judicious arrangement and combination of colour, it is absolutely necessary. The most perfect mechanical skill is comparatively useless without this knowledge, for whilst, in colouring portraiture, the operator must imitate as closely as possible the inherent or natural colours of the original, yet as the choice of accessory colours, in draperies, backgrounds, &c., depends largely on his taste and judgment, on the judicious management of these he must rely for those contrasts which shall give full value to the inherent colours, and secure at the same time harmony and keeping in the whole.

There are only three simple or primary colours, that is, colours which cannot be produced by compounding other colours, and by the combination of these three, every other possible hue is attainable. These colours are *yellow*, *red*, and *blue*. The source of all colours being solar light, the seven tints of the solar spectrum—produced by dividing a beam of white light by means of a prism—were at one time regarded each as elemental colours; very little observation, however,

will show that these three only are simple or elemental, the others being produced by the mixture of these three.

By the combination in proper proportions of any two primaries, a *secondary* colour is formed. Thus yellow and red produce *orange*; yellow and blue produce *green*; red and blue produce *purple*. The three primaries and the three secondaries, produced by their combination, are regarded as the only six pure or *positive* colours, all subsequent combinations tending to produce neutrality.

The combination of two secondary colours in due proportions produces a *tertiary*. Thus, orange and green produce *citrine*; purple and green produce *olive*; and purple and orange produce *russet*. These have been classed by some amongst the positive colours; but are more usually regarded as the first gradations towards neutrality, and are styled semi-neutrals. These combinations may of course be continued further, without losing precision in nomenclature, although each admixture produces a less definite tint.

The secondary colour formed by any two primaries is what is called *complementary* to the remaining primary; that is, it completes the balance of colour on which harmony depends. Thus the mixture of yellow and red produces orange, which is complementary to the remaining primary, blue. The mixture of yellow and blue gives green, which is complementary to the remaining primary, red. From the mixture of red and blue we obtain purple, which is complementary to the remaining primary, yellow. In like manner, the tertiary, formed by the mixture of any two secondaries, is complementary to the remaining secondary. Thus, the combination of orange and green gives, as we have said, citrine, which is complementary to purple. By the mixture of purple and green we obtain olive, which is complementary to orange. The result of a combination of orange and purple is russet, and this is complementary to green. The same principle will apply to every variety of hue produced by combination; for instance, scarlet is red with a very slight admixture of yellow or orange; the complementary green will therefore possess a similar slight admixture of blue, the complementary of orange. Crimson, on the other hand, is red, with a very slight admixture of blue, and the complementary green will in that case incline a little to yellow; and thus in almost infinite gradation.

*The combinations of which we have been speaking, it*

must be observed, are of colour with colour, and the result is in all cases another *hue*, which term applies simply to colour and not to intensity. A *tint* of any hue is obtained by diluting it with white; and a *shade* of any hue by the addition of black. The various gradations of intensity of any hue are termed a *scale*.

White and black are not regarded as colours. Theoretically, white being most nearly allied to light, is supposed to be a combination of all colours; and black, as most allied to darkness, is supposed to be a negation, or absence of all colour. Practically, however, the pigments of the painter but very imperfectly represent the pure colours of the solar spectrum, and the compounding of the three elemental colours, each neutralising the other, produces what is termed a normal grey, or a very near approach to black. White and black, therefore, practically constitute the extremes of the neutral colours, and greys their intermediates.

In speaking of the complementary relations of certain colours to others, it is not to be supposed that we are merely indicating the arbitrary classification of painters, or of theorists; we are explaining an absolute natural law, with which many of our readers may doubtless be familiar, and of which others may easily convince themselves by a simple experiment. If the eye be fixed steadily for a few moments on any object coloured with a pure primary colour, and then closed, an image of the object will remain upon the retina, but it will be of the complementary colour formed by a mixture of the two remaining primaries. To simplify the illustration, the familiar experiment with wafers of various colours may be tried. Take three wafers, one of each of the three primary colours; place one of them, say the red, on a piece of white paper, and look at it steadily for a short time, when it will appear to be surrounded by a narrow circle of green; or, on removing the eyes to another part of the paper, an image of the wafer, called an ocular spectrum, will appear before the eyes, but of a pale green tint, formed of a combination of the blue and yellow rays, and complementary, of course, to the red of the wafer itself. So with the remaining wafers; the blue being succeeded by an orange spectrum, and the yellow by purple; in each case the balance of colour being completed.

It is important to obtain and bear in mind a correct idea of these relations, because on the skilful use of contrasts



much of the power of the colorist depends. Each individual colour possesses comparatively small value in itself; it is in its relation to and connection with surrounding colours that its beauty or value chiefly consists. A familiar and somewhat trite, but, at the same time, very striking illustration of this fact, is found in the comparison of painting with music. No single note possesses any musical value in itself; it is only in its relation to other notes that it possesses value; and as all the varied charms of melody arise from the succession of a few notes in happy relation, and all the sublimest harmonies depend on simultaneous combination of the same simple notes, so all that delights the eye in painting, except beauty of form, must arise out of the skilful combination, arrangement, and contrast of the three elementary colours. Again, it is important to understand fully these relations, for the simple and easy production of good effects; thus, if we would give brilliancy and power to a certain colour in the picture, it is not always necessary to intensify this colour itself to an undesirable or unnatural extent, for the same effect may be produced by bringing into juxtaposition, and degrading or lowering, its opposite; if any particular colour requires warmth, the effect may be produced by cooling surrounding tints; and if transparency be required, it is obtained by contrasting with an opaque antagonist. And so in regard to many other effects, which can only be attempted, successfully, by a correct knowledge and intelligent application of these principles.

Harmonious contrasts are obtained by the juxtaposition of colours complementary to each other, and such colours are always mutually enriched by the contrast; whilst, on the other hand, colours not complementary are mutually injured by contact. Thus, yellow, and the secondary which is complementary to it, purple, both gain in richness and intensity by proximity; whilst, if purple and another of the primaries not complementary, say blue, were thus brought into contact, both colours would suffer. The same principle will, of course, apply to all neutral and semi-neutral tints, which, to give value to any more positive colour with which they may be brought into contact, should incline to the complementary of such colour; whilst, on the other hand, the intensity of any positive hue may be somewhat neutralised by an opposite course.

*Contrasts, then, it will be noted, are always the most*

effective, as well as harmonious, when they are complementary. Even the contrast of light and shadow should be governed by this principle, for shadow will generally be not only the most effective, but the most natural, when of a hue complementary to the lights, as the familiar instance of the purple tone of the shadows during sunset, when the light is of a golden yellow, will illustrate.

It must not be imagined, however, that contrasts, however effective, and when quite complementary, are all that is necessary to harmony. Even in the monochrome of the photograph, as every photographer is aware, deep shadow and brilliant light become offensive, without the varied gradation of half-tone to connect them. This necessity for gradation and connection is even more important in relation to contrasting colours; thus, orange and blue, whilst complementary to each other, and harmonious as contrasts, if used in their crude or positive state as the only colours in a picture, would be extremely unsatisfactory; but the addition of a few broken tints composed of the two, or of their elements, in varied combination, would at once give softness and harmony to the whole.

We have been speaking hitherto simply of the contrasts of complementary hues and the harmony resulting therefrom. There are, however, other contrasts pertaining to these complementary relations, arising out of the effect of colours in regard to perspective, *chiaroscuro*, and warmth or coldness.

In relation to perspective, blue, which is the least positive of the primary colours, is called the most retiring colour, as it recedes most from the eye, and is the best representative of distance; whilst orange, its complementary, is the most advancing colour. The student may easily convince himself of the fact of these characteristics by placing an object coloured blue and another coloured orange, both colours having the same relative intensity, side by side, and then retiring from them to some distance; he will find that the blue is much the soonest lost to the eye and mingled with the distance, whilst the orange at the same time is vivid and distinct. The same characteristics will, of course, pertain to the compound colours which are most nearly allied to these respective hues. As regards black and white in this respect, black is the most retiring, white the most advancing.

In respect to light and shade, setting aside black and white, which, as we have before said, are not regarded as

colours, yellow is the most luminous colour, or the most nearly allied to light, regarding light simply as an illuminating agency; whilst purple, its complementary, is most allied to shadow, and is the deepest pure hue. Of the uncompounded or elemental colours, blue is the representative of shadow; and yellow of light, whilst red, occupying an intermediate position, is analogous to grey, the intermediate of black and white.

Blue, as well as being the most retiring colour, is at the same time the coldest—all colours being cooled by distance. Orange, its complementary, is the warmest of all colours; and so in regard to the semi-neutrals, they are warm or cold just in the degree that their component parts partake of these full hues.

Red and green, which do not contrast as to light and darkness, do so to some extent as to warmth and coldness, the more so as the red may incline to orange as in scarlet, and the green to blue. The special contrast of this pair is, however, that red is the most positive and exciting of all colours, and green the most quiet and soothing.

Besides these contrasts of colour with colour, a special influence is exercised by the contrast of intensity in the same colours, and by black and white in juxtaposition or combination with them. Two tints or shades of the same hue of different degrees of depth placed side by side, appear at once in a modified intensity; the deepest gaining additional depth, and the palest appearing still paler; this modification appearing most marked at the points of contact. Any colour having a luminous complementary, gains in richness and intensity by contact with white, as indeed to some extent do all full hues; but broken tints of any colour luminous in itself suffer by contact with white. On the other hand, black should not be opposed to colours which have a luminous complementary, as both must inevitably be impoverished by the contrast; whilst any colour having a dark complementary, and, of course, more or less luminous in itself, will gain by the proximity of black, which also is enriched by the luminous contrast. Thus, blue or purple, and all colours nearly allied to them, would suffer in depth if placed in contact with black, whilst the black itself would be tinged with the complementary orange or yellow, and assume a rusty tone. White, on the other hand, placed in juxtaposition *with similar colours*, by assuming a tint of the same com-

plementary hues, would enrich the blues or purples, or analogous colours. Black placed in contact with orange, yellow, or red, and similar colours, would itself be enriched, assuming something of the blue, purple, or green tone complementary to these hues, and would at the same time by its contrast give brilliancy to these and analogous colours. The effect of a neutral grey is good on all full hues, which give richness and intensity by contrast.

In the compounding of colours on the palette, it must ever be remembered that the effect is altogether different to that produced on the eye by their juxtaposition in a distinct unmixed form, in however small portions, as in hatching or stippling, or by their superposition, as in glazing. White, it must be remembered, when mixed with any colour, always mars its transparency, and hence the horror which the great master of colouring, Rubens, expressed against the slightest admixture of white in shadows, which should always possess the utmost transparency. Black mixed with any colour always detracts from its purity and brilliancy.

We may here remark that any discordance or want of harmony in colouring is most apparent where the colours are used in their full intensity; and the purer the tints, when harmoniously combined, the more beautiful the effect. There are cases, however, in which, from colours inherent in the model, and absolutely necessary to the picture, it becomes necessary to introduce a mass of one colour, which disturbs the harmony, as in the case of a soldier's uniform: in such case the discordance will be less marked and offensive if the prevailing colour be kept as low in tone as possible, and as much as possible in shadow. Obscurity may thus, to some extent, conceal the want of harmony, but should never, notwithstanding the example of some great painters, be substituted for it.

We have been speaking hitherto of the more striking and apparent sources of harmony arising out of judicious contrast. Harmony in colouring may, however, arise from various sources, and next to that of contrast the harmony of *analogy* is, perhaps, the most important, comprising as it does an infinity of varied and refined beauties, "too subtle to be defined, too intricate to be easily understood, and often too exquisite to be felt by the untutored eye." The harmonies of contrast are most generally produced by the juxtaposition of the primary and secondary colours, and those

chiefly used in some approximation to their full hues. The harmonies of analogy arise from the judicious arrangement of the varied tints and shades of any single colour; from the arrangement of full hues after their natural gradation as seen in the solar spectrum, or from happy arrangement and gradation of tertiary and semi-neutral colours. To the production of good results in this respect, good taste, careful observation, and a cultivated eye, are absolutely essential; for in proportion as the effects are delicate, the mode of producing them is less obvious. Of this class of beauties it has been well observed by Field, in his "Chromatography," that "they are at once less definite and less generally evident, but more delightful—more frequent in nature, but rarer in common art;" he adds that they at the same time "give a boundless license for the display of the most captivating harmonies of colour, and the most chaste and delicate expressions." On this subject it is evident no definite rules can be given; we have said sufficient to be suggestive of its importance, and to commend it to the careful study of the reader.

Somewhat allied to the last source of harmony is that arising out of the prevalence of any given tone throughout a picture, producing an effect analogous to throwing upon it a coloured light, or viewing it through a tinted glass. This effect does not, indeed, come strictly within the true meaning of harmony, although the principles and practice of many good painters, confounding tone with harmony, have at times substituted the one for the other. It has the effect, however, occasionally of reconciling in some degree discordant arrangements of colour. Where the picture is intended to appear suffused by a coloured light—or, in other words, where a certain tone is intended to prevail—care must be used that every colour in its own degree shall be properly modified. For instance, if a warm tone is intended to characterise the picture, the reds will approximate to scarlet, the scarlets to orange, and the yellows to orange; the greens will lose some amount of their blue, and acquire yellow; the purples will incline to red, and the blues approximate to a warm grey. Thus all the colours containing red and yellow become heightened by the prevalence of orange, which at the same time somewhat neutralises the blues and colours of which blue is a prevailing component. As whatever may be *the inherent colours* in the model, the painter is always

master of the tone which shall prevail, he may often avail himself of this fact to produce pleasing effects, or to neutralise the influence of any mass of unharmonious colour which of necessity belongs to the picture.

The harmonies of contrast are always the most striking and attractive—those of analogy the most subdued and delicate. In portraiture, therefore, where it is desired to give the utmost importance and prominence to the face, the latter class of harmonies should prevail in the accessories. The dominant colours of the complexion being ascertained and reproduced, all accessory effects, whether in draperies or background, should be chosen to give value and prominence to the face by contrast, the harmonies of analogy only prevailing so far as these accessory colours themselves are concerned. If, on the other hand, from any inherent defect or deformity in the model, it is desirable not to give too much prominence to the face, the attention may be drawn from it by the employment of the harmonies of contrast in the colouring of the accessories. The best effect will, however, be produced by the judicious combination of both kinds of harmony, taking care, in the introduction of accessories for the sake of colour, that they are not incongruous with the character of the picture, and that they are so distributed as to produce a general symmetry, and to avoid the spottiness of effect which will easily arise from bad arrangement of minor matters.

The photographer who wishes to excel in the colouring of his productions will do well, whilst acquainting himself with the principles on which harmony depends, to avail himself of every opportunity of studying the works of great painters, and critically ascertaining to what extent and how these principles are carried out. This will be found a valuable method of fixing them in his mind. At the same time, let him endeavour to examine and analyse the colours of nature, which imitative art can, at best, but endeavour to reproduce. In speaking of portrait painting, Sir Joshua Reynolds says, "Avoid the chalk, the brickdust, and the charcoal, and think on a pearl and a ripe peach." It would have been better, with all due deference to so great an authority, if he had said, "Think of the natural hue of the human face."

We shall conclude our brief statement of the principles on which harmonious colouring is based by a few remarks on

their application to portraiture, following to some extent, on this part of the subject, the authority of M. Chevreul, whose work on the harmony and contrast of colours, and their application to the arts, is perhaps the most complete and conclusive ever published.

Notwithstanding the almost infinite gradation and variation of complexion amongst the Caucasian or white race, it may be, and generally is, divided into two well-marked types—the blonde, or fair complexions, and the brunette, or dark complexions.

In the first type—the blonde complexions, the harmonies of analogy chiefly prevail. The colour of light hair, being essentially the result of a mixture of red, yellow, and brown, is regarded as a pale orange brown; and the colour of the skin is analogous to it in generally being a very dilute or pale tint of the same colour. The roseate tints of such complexions, although entering into another scale of colour, forms no contrast, but generally preserves the analogy of hue. The blue eyes most common in such complexions are the only points giving rise to the harmony of contrast.

In the brunette type, on the contrary, the harmonies of contrast predominate. The hair, eyebrows, eyes, &c., contrast in tone and colour “not only with the white of the skin, but also with the red parts, which in this type are redder, or less rosy, than in the blonde type.” This classification can of course only be regarded as existing in an absolute degree where the types are strongly marked, and is so far generally suggestive.

In regard to the effect of draperies on complexion, especially when in immediate contact, the following suggestions will be found worthy of remembrance:—Rose red cannot be put in contact with the rosiest complexions without detracting from their freshness, unless it be kept decidedly lower in tone. Dark red is in many cases less objectionable, as from its depth it tends by contrast of tone to impart whiteness.

A pure, delicate green is, on the contrary, favourable to fair complexions, especially if they are at all deficient in colouring. Where the carnations are, however, decidedly red, or are much inclined to orange, a delicate green is less suitable, whilst deep green will give them value from contrast *of both tone and hue.*

Yellow drapery, as is well known, is favourable to a brunette, as it tends to neutralise the yellow in the complexion. To fair complexions it is, however, often ruinous, imparting to them, as it does, something of its complementary, purple.

Violet is rarely favourable to any complexion, as no complexion is improved by receiving an accession of its complementary, yellow. It has the effect on fair complexions of imparting a sickly greenish yellow, and, on dark complexions, of making them appear affected with jaundice. The only case in which it is admissible is when, by extreme depth, it imparts whiteness by contrast of the tone.

Blue, as is well known, is suitable to most fair complexions, affording, as it does, a complementary contrast to the general hue of the complexion. The only fair complexions in which it should be avoided are those accompanied by red hair, in which case the orange tint of the hair would be augmented, an effect rarely to be desired. Blue rarely suits the brunette complexion, which is not often improved by receiving any accession of orange.

Orange drapery is rarely suitable, as it is too glaring and brilliant in itself, and no complexion is improved by looking blue—an effect which the proximity of orange is calculated to produce.

Pure white improves a fresh, rosy complexion, but to complexions wanting in freshness, whether belonging to the blonde or brunette type, it is injurious. The whites, however, of light open white draperies, such as net, tulle, lace, &c., have the effect of grey, and improve most complexions.

Black draperies will, in most cases, tend to whiten the effect of the skin, but where there is a prevalence of dark red in the complexion it is unfavourable, as the red is heightened and appears less roseate.

The application of the principles we have briefly indicated must rest with the artist, and will call for the constant exercise of careful observation, study, and judgment; for, as M. Chevreul remarks, "the varieties which exist between the two extreme types of complexion, and which unite them by insensible shades, are the reasons why the artist only can estimate the harmony most suitable to such of the varieties as he is employing for a model; consequently, it is for him to judge if the dominant tint of a complexion must be exalted



or diminished, either integrally, or in one of its elementary colours, or whether it must be altogether neutralised ; it is for him to see, in the case where he wishes to weaken it, if this is best done by means of a drapery of a darker tone, and thus to form a harmony of contrast of scale or hue ; or else, if, on the contrary, it is preferable to attain the same end by opposing to this tint a drapery of its complementary colour, taken at a sufficiently high tone to produce the double effect of weakening by contrast of tone, and at the same time of producing a contrast of colour with that portion of the tint which is not neutralised."

## COLOURING POSITIVES ON GLASS.

—♦—

THE first step necessary is to procure the requisite materials. To have even the slightest chance of success, it is important that these should be good in quality, and prepared for their purpose under the superintendence of persons practically acquainted with the requirements of photography. It has, unfortunately, happened, that this condition of success has not frequently received attention, and that much of the artistic material appertaining to photography has been, like the pedlar's razors, made for sale and not for use. As it is obvious that we cannot here refer to the productions of individual manufacturers, we will, as far as possible, minutely describe the proper characteristics of material suitable for producing good results.

### PHOTOGRAPHIC POWDER COLOURS.

These furnish the only suitable and simple means of colouring collodion positives on glass. They are applied in the form of impalpable powder, with a dry pencil, to the collodion film. They should, if properly prepared, be brilliant in colour, transparent,\* and, as far as possible, permanent; they should, at the same time, "bite" well, or adhere readily to the surface of the plain or varnished collodion film. Some colours there are which appear brilliant

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\* The use of this term is possibly liable to some misconstruction, as entire transparency, in its absolute sense, is not possible in powder colours. We use the word, however, in a modified sense, meaning that approximation to transparency resulting from the use of the purest and most transparent pigments, reduced by careful levigation to the utmost degree of fineness. Colours so prepared are sufficiently transparent, when applied to the lights and half tones of a picture, to tint without obscuring them; but if applied to the deepest shadows of the hair, &c., would assuredly detract from their clearness and depth.

enough when seen in bulk, but which, from being manufactured of inferior and unsuitable pigments, or from being imperfectly prepared, have an insipid and dull effect when applied to the picture, and, at the same time, rapidly fade when exposed to light. Others, from similar causes, are entirely destitute of transparency; and, when applied to the photograph, obscure both lights and shadows, and give to the whole a muddy, flat, coarse appearance. As dry colours are applied to the half tones and some of the shadows as well as to the lights of the picture, it is obvious that unless they possess the utmost transparency, they will mar rather than improve the photograph. And, however pure in tint or delicate in texture, unless they *bite* sufficiently with very simple manipulation, good results cannot be hoped for. Some manufacturers, in order to secure this "bite" in their colours, add a portion of some resinous gum in grinding; the desired result is, to some extent, generally secured by this means, but with this drawback, that when the picture is varnished the gum is dissolved, and the colours consequently run. The best colours we have used are prepared by some peculiar process, known only to the manufacturers, which secures a facility in applying them that leaves nothing to be desired. Powder colours are prepared in tints suitable for every purpose, and, if a proper selection is obtained, rarely require mixing. A recent writer, speaking of these colours, intimates that, if they be found too powerful, they should be "reduced with *white*, which bears the same relation to powder colours that water does to ordinary cakes." Such a remark could only arise from an entire absence of practical knowledge on the subject, and, if followed, could only lead to disappointment. Dilution of cake colours by means of water not only abates their intensity, but increases their *transparency*, by so much as it thins the layer of pigment on the picture. The addition of *white* to powder colours, on the contrary, whilst it certainly lowers their brilliancy, at the same time increases their *opacity*; it also imparts a cold, dull, unnatural effect. Colours ready-prepared of the required delicacy of tint should be procured at the outset, especially for flesh tints; by all means we should avoid the brickdust-like powders, which, applied to the photograph, yield a complexion like that of a Red Indian. We cannot here enumerate the tints required: we merely *remark that, the more complete the variety, the more easy*

and pleasant will the practice become, and the more satisfactory the results obtained. We have dwelt sufficiently, we think, on the characteristics of good colours, to impress the reader with the importance of possessing them, and to guide him in selecting them.

#### BRUSHES.

The quality of these is not of less importance than that of the colours. The camel's hair and sable pencils prepared for use with water colours will not do; they should be manufactured expressly for this purpose. For general use camel's hair is more suitable than sable: the hair should be short and thick in proportion to its length; carrying a fine, firm, and well-supported *natural* point. For fine lines a few small sables will be desirable. It is well to keep a stock of brushes ready-prepared for use; they should be agitated in a glass of clean water, and brought to a point by drawing them through the lips. The point thus produced will, if the pencils are properly manufactured, be retained when dry, and work for some time without spreading.

An India-rubber bottle, with tube attached, to blow away superfluous colour, will be required. For this purpose vulcanised India-rubber should be avoided, as the particles of sulphur are often detached, and cause spots of sulphuret of silver on the plate. A large camel's hair duster, a tube of moist Chinese white, gold and silver shells, with a varnish of which we shall have to speak hereafter, will complete the equipment.

#### TO CHOOSE THE PHOTOGRAPH.

To produce the best results, it is necessary that the photograph be a good one; but all good photographs are not equally suitable for colouring. An over-exposed flat positive can never be made a good picture by any process; a slightly under-exposed but otherwise well-managed photograph may sometimes, however, present a fine specimen of *chiaroscuro*, and be worth retaining as a good, vigorous, uncoloured picture, whilst any attempt to colour it with powder colours would probably render it heavy and muddy. A positive most suitable for colouring should be properly exposed, and sufficiently *well developed* to secure purity and intensity in the lights, which should have a somewhat chalky surface.

presenting what is termed in crayon drawing a "tooth" to the colour. A bright metallic positive, with a surface glossy in the lights as well as the shadows, sometimes looks exceedingly well as an uncoloured picture, but is difficult to colour, and unsatisfactory when done. A photograph with dull, tawny lights, cannot be expected to make a brilliant-coloured picture. The face should be well lighted, without heavy, abrupt masses of shadow. \* It is no part of our province in this treatise to speak of the operative department of photography, but we may remark, *en passant*, that the proper lighting of the model is one of the most important, and, at the same time, least studied and most imperfectly understood duties of the photographer. A well-lighted picture makes the work of the colorist infinitely more pleasant, and enables him, with comparatively small trouble, to produce good results. We need scarcely add that the picture should be sharp, well-defined, and as free as possible from stains and spots.

#### TO COLOUR THE FACE.

It is well to begin the picture with the flesh tints. Three or four varieties of tone and depth will be required, which are usually distinguished by the manufacturers by numbering them; but as this mode of nomenclature varies, we will describe the colours. In our practice we use four fleshies, and two or three complexions. No. 1 dark and No. 1 fair are extremely pure and delicate tints, suitable for the high lights of flesh, and sometimes for the local colour in ladies and children. The first is somewhat of a cream colour, and the second similar, but a little less yellow in tone. No. 2 dark and No. 2 fair are deeper in tint, and are used for the local colour of the respective complexions to which they are suited.

Before proceeding farther, we may remark that a variety of modes of using dry colours have been adopted by different persons. Some colour on the collodion film, and leave it so; others colour thus, and then finish with varnishing; whilst others varnish first, and colour on the varnished film. Neither of these plans gives the best results. The mode we have long followed with success, and which we recommend as securing the most solidity, permanence, and brilliancy, is to colour the picture throughout, or nearly so, on the *collodion film*; then varnish and colour the entire picture again.

In proceeding with the first colouring, it must be remembered that the varnish will materially modify the brilliancy and depth of the applied tints, and that therefore they may possess much greater intensity than is required in the finished picture.

Begin with the forehead, using a delicate creamy tint such as we have described as No. 1 flesh. A small portion of colour is to be taken up at the point of a camel-hair pencil, and applied with a light circular motion, commencing on the high lights, and softening gently into the shadows, working well up to the edges of the hair, but taking care not to touch it. With the same tint colour the high lights of the nose, cheeks, and chin. Next proceed to use the local flesh colour, applying it to the remaining portions of the face; commencing as before on the prominent parts, and softening towards the shadows. In doing this, the outlines of the features must be carefully traced; avoiding the deep shadows of the nostrils, eyes, and lips. A small portion of colour must be taken up at a time, and applied with very gentle pressure. The tyro will easily acquire a good method if he endeavour to fancy that the features really possess the relief which their light and shade indicate, and follow with his pencil the undulations which would then exist. Very little colour should be applied to the shadows and half tones—just sufficient to tint without in any degree obscuring them. The retiring shadows of the forehead may be carefully touched with a grey formed of carmine and green mixed to a cold or warm tone, as the complexion may require. The shadows in the socket of the eyes and those of the mouth may be touched with a similar colour. The shadows of the nostrils and of the ear may be touched with carmine, or carmine and dark brown. The lips should be coloured with a tint prepared for the purpose, or with carmine, taking care to preserve their exact form—avoiding the shadow between them. The iris of the eyes, if blue or light grey, may be touched with a suitable tint; but if dark grey or hazel, they are, unless the head be on a large scale, best untouched.

We may here remark that many colorists simply apply a uniform coating of a suitable flesh tint over lights and shadows, and finish by heightening the colour of the cheek with carmine. We need scarcely add that pictures thus coloured are immeasurably inferior in artistic effect to those in which

some attempt is made to give both lights and shadows their appropriate tints, and thus to secure depth, brilliancy, and harmony.

#### COLOURING THE HAIR, ETC.

Where the colour of the hair is black or grey, the tone of the collodion positive is generally sufficiently near to that of nature, and may, therefore, be left untouched. In all varieties of brown hair, and especially flaxen, golden, auburn, or red hair, colour is absolutely necessary to correct portraiture. Dark brown hair may generally, with advantage, be left until the second colouring, as dark browns are amongst the colours which are generally removed by the application of varnish; but of that hereafter. All the varieties of light hair are, however, best coloured before varnishing. It is somewhat difficult to specify the tints to be used, as some modifications will be found necessary in almost every case. All the various tints of yellow and light brown, either alone or in combination, will at times be required, and in all cases much more intensity and brilliancy than appear natural must be obtained in the first colouring. One example will be sufficient to illustrate the principle on which this must be done. Suppose the picture in the hands of the colorist to be that of a lady with bright golden tresses: select a bright orange tint—the colour labelled “horizon” will answer best—and apply it to the *lights and half-tones only*, avoiding the deep shadows. This done, you will, if a tyro, be probably appalled by the most fiery-looking head of hair you have ever seen. Nevertheless, for the present leave it so; for after varnishing, this fiery hue will have softened into a sunny, but by no means glaring or unnatural, golden yellow. The same principle must be applied throughout in all varieties of light hair. For flaxen hair use a light yellow, either alone or in combination with “horizon.” For light brown, use a suitable brown, either alone or in combination with “horizon.” By applying the colour with excess of brilliancy at first, and allowing for the modification produced by varnishing, a much softer effect is produced, and one in which the characteristic texture, &c., of the hair is much better preserved, than if much were left to be done in the second colouring.

We have said that colour is to be applied to the lights and *half-tones* of the hair only, avoiding the deep shadows. All

deep shadows should be transparent; and in the hair especially, the peculiar form of the locks, the texture, &c., would be speedily lost if this point were neglected. In speaking of the deep shadows of a positive, we may as well here make a remark on the mode by which they are generally obtained in glass pictures. A coating of some black varnish is usually applied to the reverse side of the plate to produce the shadows. This is rarely the best method for coloured pictures. It is quite true that all shadow is a departure from colour, and, in uncoloured pictures, black is a very suitable shadow; but it has generally a cold, inharmonious effect in a coloured picture. We prefer, for this purpose, a backing of deep maroon velvet, which warms the shadows, and harmonizes with the greatest number of tints used in portraiture, giving generally an especially suitable shadow-colour for the hair.

#### THE NECK, BOSOM, HANDS, ETC.

The neck, the bosom (if it be uncovered), and in most cases the hands, should be coloured with the No. 1 flesh. If a direct vertical light has been used in producing the picture, the heavy shadow of the chin often darkens the neck; this should, if possible, be avoided, as it is at once unpleasant and unnatural. The shadows of the neck and bosom should be cool, and the gradations as soft and delicate as possible; those of the hand and arm may be touched with carmine, with which the divisions of the fingers may be traced.

#### DRAPERIES.

The mode of colouring draperies varies with the fabric; in good photographs they are often, especially dark draperies, best left uncoloured. The characteristic texture of most fabrics is generally rendered in photography with such beautiful exactness, that in many cases colouring can only mar them. In all cases where colouring is attempted, it is especially important to endeavour to preserve the peculiar texture, folds, &c., as rendered in the photograph. Here, as in the hair, the lights and half-tones only must be touched, avoiding the deep shadows. In colouring silks, the chief point is to keep the shadows clear and transparent, and the high lights brilliant, generally using for this purpose a tint a little lighter than the local colour. In light silk draperies a



good effect is often produced by the use of two tints; in this case it must be remembered that where the lights are cool the shadows must be warm: thus, in a pale blue "shot" with orange, the lights will be blue and the shadows orange; in a green "shot" with any tint of red, the lights will be green and the shadows red; and so in similar cases. As a general principle in painting, especially in portraiture, the use of all positive colours should be avoided. The photographic colorist using powder colours is rarely in much danger of violating this rule, as the various half-tones of the photograph to which he applies the colour have much the same effect, in modifying the brilliancy of his tints, as adding grey to the colours of the painter. The young colorist will do well, however, to remember that masses of glaring colours have rarely a pleasing effect, and should be as much as possible avoided.

#### IMPERFECTIONS AND SPOTS.

The first colouring is now completed, and the picture is ready for varnishing. Before doing this, however, it will be necessary to attend to a point which, perhaps, ought to be looked to before commencing to colour—the "touching out" of imperfections and spots. When these mischievous sprites have baffled the care of the operator, he must rely on the aid of the colorist. When, however, perfect pictures can possibly be obtained, faulty impressions should be, for the credit of photography, unhesitatingly destroyed. But it will sometimes happen that pictures good in themselves, and of which no other copy can be obtained, have a few minor defects which may be remedied by a skilful use of the pencil. For this purpose water colours must generally be used. Black spots in the background or draperies may easily be managed. The colours to be used must to some extent depend on the tone of the photograph; but a little Chinese white, Naples yellow, and sepia or Indian ink, mixed to the proper tint, will generally answer: it must be applied on the point of a sable pencil, taking care to lay on no more than is absolutely required, so as to avoid the appearance of any excrescence of colour on the surface. Spots on the lights, especially on the face, are more difficult to manage; they must be carefully touched with Chinese white, modified by Naples yellow to *suit the tone of the picture*: this should be tried on a corner

of the plate first, to ascertain that the mixture perfectly harmonises in tone with the photograph ; if this be the case, and it be skilfully applied, taking especial care to use no more than just covers the spot, after the picture is coloured the defect will be scarcely observable. Cases will sometimes occur, especially in portraits of children, where the eyes have moved, or are not perfectly sharp. This may be remedied by the use of water colours. The pupil may be put in with Indian ink, and the outline of the iris carefully traced with the same much diluted ; the marking of the eyelids and eyelashes may be strengthened with Indian ink, and the point of light put in with Chinese white. Remember, however, that without some knowledge of drawing, and some little skill in using the pencil, no change should be attempted, as it is very easy by one false touch to alter the likeness and spoil the picture. Remember, also, that the free use of water colours will produce a coarse effect, from its want of harmony with the texture and surface of the glass picture ; that their use is only permissible to remedy defects, and should be regarded as a *dernier ressort*.

#### VARNISHING.

All defects remedied and the first colouring completed, the picture is ready for varnishing. The use of a suitable varnish is of importance both as regards its influence on the appearance of the finished picture, and the surface it presents for the second colouring. A common error in the manufacture of varnishes for photographs, especially for positives, is giving them too much body. Something more than the means of spreading an even layer of gum over the surface of the picture is required, whilst that is all that many of the varnishes seem intended to effect. This will certainly sometimes serve as a protection to the photograph, but at the same time it imparts a glazed, vulgar effect to the picture, and renders the subsequent colouring difficult and comparatively ineffective. A varnish which affords facilities for producing the most artistic results in the finished picture, should give depth and transparency to the shadows, without appreciably glazing or lowering the whites, which it should leave with a surface somewhat "flat" or dead. By this means the greatest depth and vigour of which the picture is capable is secured, together with a "biting" surface for the

second colouring, on which any amount of brilliancy may be obtained.

We offer no recipes or suggestions for the manufacture of varnish, as we think that, generally, the attempt on the part of the photographer to make his own varnishes is a great mistake. Much more judgment and experience in the selection of gums and resins, and their solvents, than is likely to be obtained in the practice of most photographers, is requisite to ensure success in varnish making. Most amateur attempts result in the production of an article which, by cracking, blooming, or turning yellow, is likely eventually to spoil many good pictures, and at a price often exceeding that at which a good varnish may be purchased.

A varnish with a benzine or chloroform solvent generally gives the best surface for the second colouring; a spirit varnish, unless manufactured expressly for positives, in most cases yields a surface too hard and glassy. Spirit varnishes always require heat in the application, or they dry dull and opaque. Benzine varnishes dry bright and transparent without heat, but are better for its judicious application in damp or cold weather. Chloroform varnishes generally dry rapidly without any heat. A little care is required in the application of all varnishes, the same as in coating a plate with collodion; to secure an even film, free from waves and unequal patches, and to prevent a return wave at the bottom of a plate. This will be gained very easily by practice, and observing the instructions usually given by the makers on the label of each bottle.

Experience and observation will enable the colorist to determine beforehand the modification of each colour, as applied in the first colouring, which the varnishing will produce. As a rule, reds, yellows, and greens are the least affected, whilst dark browns, some blues, violets, &c., are almost destroyed by it, and are best, therefore, left until the second colouring.

#### SECOND COLOURING.

By colouring first, and then varnishing, several advantages have been gained. In the first place, the chief disadvantage of dry colours—their tendency to fade—has been to a large extent obviated; and in the next place they have, by combination with a transparent vehicle, lost whatever of *opacity* pertained to them. They have now, in fact, ac-

quired something of the permanency and transparency of oil colours. But what they have gained in transparency they have lost in intensity, and to produce perfect results a second colouring is necessary. The combination effected between the varnish and the colour already applied, gives a biting surface, on which any amount of force and brilliancy may be obtained. This circumstance, however, renders imperative the greatest possible care in applying the second colour, otherwise the delicate half-tones are easily obscured, and the beauty of the picture seriously marred.

Commence again with the face, and proceed as in the first instance, using throughout nearly the same tints, but of just such intensity as they are intended to possess in the finished picture, as no further modification is to take place, except what may arise out of judicious contrast in the colouring of the draperies and background. A pure delicate tint, similar to that we have described as No. 1 flesh, may be freely applied to the highest lights; now use the local colour, blending it with the lights and softening into the shadows of the face, the deepest of which may frequently, in the second colouring, be left untouched with advantage. If the first colouring has been judiciously managed, and has, after varnishing, left the shadows of a suitable and harmonising tint, they will, by being left untouched in the second colouring, retain their transparency, and add much to the depth and vigour of the picture. If they require touching to make them accord in tone with the newly-applied colour, a very delicate application of the proper tint will suffice. Remember that beauty of colour will not compensate for the loss of the proper relations of light and shadow. Heighten the cheek with carmine, or carmine and rose, taking care to diffuse the colour naturally, preserving in this respect the characteristics of the sitter, and blending the carmine with the local colour. Touch the lower lip with carmine, taking especial care not to obscure its form, and to avoid touching the shadow which divides the lips. The upper lip, being in shadow, will rarely require any brighter tint than that it has already obtained in the first colouring.

The eyes, if a bright blue, will probably require touching again with the suitable tint. The corner of the eye, next the nose, may be touched with carmine. The eyebrows, if light, will probably require intensifying.

Examine the air to ascertain if the varnishing has left it

of the right tint; if not, add a little colour to the lights only.

The hands, neck, &c., may now be re-coloured, keeping them as delicate as may be compatible with the colour of the model. Remember that in this matter any deviation from nature, if it be in the direction of coarseness, is altogether unpardonable; whilst, on the other hand, a little increased refinement will rarely be censured.

Proceed now to the draperies, and re-colour them, if necessary, using the same care to obtain brilliancy in the high lights, and to preserve transparency in the shadows, as in the first colouring. The draperies in portraits of gentlemen rarely require any colour, except in uniforms, in which case they also generally require to be non-inverted. The best method of colouring these we shall describe in its proper place. In colouring draperies, it will often happen that a certain amount of discretionary power is left with the artist, of which he will avail himself to use such tints as best harmonise with the complexion of the sitter, and give due value to the flesh tints; for it is in giving life, character, and beauty to the head that the chief attention of the colorist should be devoted, all other points being more or less subservient to this object. It is very easy to completely spoil the flesh tints, and kill the whole colouring of the head, by an injudicious choice of surrounding colours. As a rule, masses of positive colour should be avoided in the draperies, keeping them judiciously subdued.

White lace, where it requires it, may be touched with Chinese white; but, as we have before said, the less water-colour used the better. Flowers may also at times be made effective by water-colours, or, better still, by oil-colours. Jewellery is often touched with the gold shell, but, unless carefully managed, it has a coarse, bedizened effect. We prefer water or oil colours if skilfully done, using orange chrome and burnt sienna for the shadows, and Naples yellow for the lights.

#### BACKGROUNDS.

The importance of a judiciously-managed background cannot be too highly estimated, and for want of care and judgment in this matter, many otherwise fine pictures are spoiled. It is stated that Sir Joshua Reynolds so highly *appreciated the importance of the subject*, that, although he

frequently entrusted the filling-in of portions of his pictures to pupils, he never trusted a background to any pencil but his own. The primary object should be to give relief and prominence to the figure; but, in addition to this, a background frequently serves to connect and harmonise the whole colouring of the picture. A glass positive, with a clean untouched background, may sometimes be left uncoloured, and present a simple, unpretending effect; but it will have the disadvantage arising out of the tendency, well known to painters, which a flat plane of any uniform colour, especially if light and warm in tone, has to advance and obtrude itself upon the eye, and cause a want of atmosphere in the picture.

The natural tint of the background in the photograph is of some importance to the colorist, as, without a suitable ground to work upon, it is difficult to produce a satisfactory effect in colouring. By all means avoid white, especially the dull tawny white so often seen in common glass pictures. The best relief is given to the figure when the background is darker than the lights, but not so dark as the deepest shadows of the picture. A white background affords no relief or contrast to the face, and is, moreover, unsuitable for good effects in colouring. A very dark background is also difficult to colour, and by its depth impoverishes the shadows of the face. The best background for all effects in colouring is a moderately dark grey. This is most easily produced by placing behind the sitter a screen covered with common sheeting calico, coloured in distemper with a mixture of black and white, forming a grey of about the tint desired in the photograph. To obtain the light behind the head, so much desiderated by some photographers, the screen should be painted and "flatted," using a similar grey, which on the required part of the background should gradually merge into white. To produce good results, this should be done by a painter.

In colouring the background, the colorist must be guided, primarily, in the selection of tints, by the complexion of the sitter, and then by the colour of the draperies. The effect of greens is to increase the rosy hue of the complexion; of violets and blues, to give it a somewhat yellow tinge; greys suit almost every complexion. Positive colours should be avoided in a background; the more neutral the tints, the more they will add to the quietness and repose which is

desirable. A uniform tint of any colour should be avoided, as that gives to the figure an inlaid effect. Atmosphere is best obtained by the use of broken tints, and the judicious management of light and shadow on the background, arranging it so that the light falls on the background from the same direction as on the sitter.

We have made no reference to any first colouring of the background, for this reason—in it is not required either the brilliancy of colour, or the solid effect, desirable in the more prominent parts of the picture; we think, therefore, one colouring, and that after varnishing, produces generally the best results. Under some circumstances this method may with advantage be modified, and in this respect experience must guide.

The colorist may use either background colours already mixed to the required tints by the manufacturer, or he may mix the different tints as occasion may require. As to the method of proceeding, one illustration will suffice: Suppose the background to be coloured is desired of a greenish grey. The figure is quartered a little from the light, so that the retiring portion is in shadow; the strongest light in the picture is on the head and face, and the chief light in the background is behind the head. Commence here with a mixture of silver grey and green, working round the head, carefully avoiding the hair, especially where it joins the background in light feathery locks. This light tint must gradually merge into a mixture of deeper grey and green as it approaches the shadowed part of the background; in the deepest shadow, towards the lower part of the picture, a little purple may be added to the mixture of dark grey and green. Around the outlines of the figure a pencil moderately small must be used, to enable the colorist to cover the background clean up to figure without impinging upon it; for the large plain surface a large soft pencil must be used, blending the whole as smoothly as possible.

Such a background as we have described has an exceedingly good effect, and to our taste is much superior to those in which a number of unmeaning objects, as columns, curtains, vases, &c., are suffered to obtrude.

*Landscape Backgrounds are often admired, and, if well managed, have a good effect.*—The natural background of the photograph should be of a similar grey to that just described. *If it be too dark, it is difficult to cover evenly and smoothly*

with blue so as to secure a clear, bright sky; and if it be too light, the landscape will be flat and tame. To explain the last remark, we may here state, that all the shadows in the landscape are obtained by leaving untouched the dark grey of the background, the lights and half lights being painted on.

Some knowledge of drawing is absolutely necessary for success here; for although any elaborate attempt at design or composition would be out of place, yet, as distance and foreground must be indicated by some kind of form, and as clouds, even, must have some shape, a little skill in drawing, however slight, is necessary as a preliminary acquisition. Unless a large extent of background is to be covered, very little need be attempted beyond a sky; but let it be remembered that the proximity of blue is rarely favourable to any complexion but a very fair one. If a landscape background be desired where the sitter has a sallow complexion, the general tone of the sky may be kept somewhat grey and cloudy, a little bright blue only breaking in at the zenith.

It is impossible to give any very detailed directions as to the effects to be produced, so much depends on the picture to be coloured, and on the taste of the artist. One illustration, however, will serve as a general indication of the method to be pursued. We will suppose a landscape with evening sky and glowing sunset is to be attempted. Commence at the horizon, making it about one-third from the bottom of the plate. The tint labelled "horizon" must be used to trace the distant outline of the landscape, which should be of an irregular, undulating character; a few streaks of this tint intermingled with carmine, or carmine and flesh colour, form the lower part of the sky. A good effect is often produced by thus repeating the flesh tint in the background; but remember that the tint in the background should never be so pure or brilliant as that in the face. These colours may merge into various tints of blue, lavender, or grey, and these again into a bright, clear sky-blue. The sky may be broken with clouds, according to the fancy of the colorist, whose taste must also decide their colour, size, and shape. It must be remembered, however, that, whatever be their colour, they must be something more than flat patches; they must possess light and shadow to give them relief and form. Some colorists leave spaces untouched by the blue, in which the clouds are subsequently coloured. We find it a simpler plan, and one presenting no difficulties of



manipulation, to colour them upon the blue without leaving such spaces. The lighted edge may be well defined with "silver grey;" this edge should not be smooth or soft, but generally somewhat ragged or abrupt, and should sometimes have an irregular, fleecy effect. For the shadowed portion use dark grey or dark grey and lavender, into which the blue of the sky may gradually merge, which will give a partially transparent vapoury effect; unless some care be taken to produce this effect, the clouds may easily be made to look like so many irregular-shaped pieces of rock jutting out from the sky. The clouds near the horizon, in the sky we are describing, should be of a warmer tint, using flesh tints, or those mixed with yellow for the lights, and warm grey and purple for the shadows.

The extreme distance of the landscape where it joins the horizon may be coloured with a bluish grey, or with the bluish green tint labelled "distance," warmer greens, browns, and yellows being used as the landscape advances towards the foreground, to which, of course, more marked definition of form will be given. Very sharp or detailed drawing, however, is not required in any portion of a background, as even the most advancing points are supposed to be some distance behind the figure, and general effects rather than definite forms are required, the idea of distance and atmosphere as much as possible pervading the whole. If a large space of background is to be covered, some variety of form and colour should be attempted. Water may be coloured with dark blue, the light on its surface with white or silver grey.

The colorist ambitious of producing architectural effects, as columns, balustrades, &c., may easily do so, if he possess sufficient skill in drawing, by using light greys or browns, or these with a little yellow, for the lights and half-lights, leaving the plate untouched for the deep shadows. Let him be careful, however, to preserve some keeping in his effects, and see that, in colouring a column, for instance, his base, shaft, and capital belong to each other. Drapery may be managed in the same way, taking care that the drawing of the folds resembles as nearly as possible that of the fabric to be imitated. As we have before stated, however, as a general rule, a more simple and chaste effect is obtained by avoiding the crowding into the background of objects having *no connection with the subject.*

## ALABASTRINE PHOTOGRAPHS.

The same material is used for colouring these as for ordinary glass positives, with some slight modification, however, of the method to be pursued. It is better to varnish the picture before colouring, for more than one reason. In the first place, from the peculiar surface, it is generally easy to secure sufficient intensity of colour by one application. A more important reason still for varnishing first, arises out of the powdery nature of the lights in these pictures, which renders it difficult to colour them without scratching or abrading the surface by almost every movement of the brush. Varnishing with a proper varnish renders this surface tough and hard, without in any degree diminishing the purity of the whites, whilst it gives depth and transparency to the shadows, and renders the surface the finest that can possibly be had for receiving dry colours. The same method of colouring, already described, will then be pursued, with additional care, however, in applying the tints of the necessary depth in the first colouring. From the delicacy of these pictures, it is especially important that pure tints be used, as bad colours or careless manipulation become glaringly apparent; while on the other hand, with care and skill, the very finest and most artistic results may be produced. After colouring the picture throughout, if additional brilliancy or intensity be desired, the picture may be varnished again without in any appreciable degree diminishing the intensity of the tints already applied; the picture may then be recoloured throughout. These pictures should always be backed with dark velvet,—maroon is best,—instead of black varnish.

## FINISHING THE PICTURE.

We have now conducted the reader through all the steps of colouring positives on glass. A few finishing touches will generally be required to complete the picture. After colouring the draperies and background, once more return to the face, the colouring of which will generally appear somewhat modified by the effect of the surrounding tints. Re-touch such portions of the face, hair, or draperies, as may seem to require additional intensity, and soften, with a clean, soft pencil, such points as appear too glaring.

The colouring completed, take a clean pencil with a fine

point to remove such portions of colour as may accidentally have touched and adhered to parts not intended to be coloured. Some care is necessary in doing this, as there is danger of rubbing the colour in, and causing a smudgy mark, instead of removing it. The pencil should be applied very lightly, and may sometimes be slightly moist, or, what is better, slightly greasy from touching the skin, so that the colour will readily adhere to it and leave the plate. This completes the work.

#### MOUNTING, ETC.

A few words regarding the fitting, mounting, &c., of coloured pictures, may not be altogether inopportune here. No *entourage* so completely harmonizes with a coloured picture as a gilt mat or spandril; and in respect of glass pictures generally, as they are more suitable for cases than for any other kind of fitting, they are mostly surrounded by the gilt mat. We regard them as most suited for cases, for this reason: they are distinguished by delicacy rather than by vigour or breadth, and their beauties are best seen by close inspection. With the exception of the alabastrine photographs, very few glass positives have sufficient vigour to serve any purpose in ornamenting the wall of a room. Where they are intended for such purpose, however, it is important that they should be suitably mounted. Nothing can be worse than the *passe-partouts* usually sold for the purpose, which are generally either black or white. The whites of an ordinary glass picture will rarely bear proximity with the intense white of the *passe-partout* without being "killed," as it is technically termed. The contact with black is scarcely better, as it has the effect of impoverishing all the shadows. A light neutral tint would answer the purpose much better, and a gilt mount best of all. We have seen some English *passe-partouts*, with broad margin, made of the common sand gold-paper, which answer the purpose admirably well. Being made into *passe-partouts*, and thus protected by the glass and sealed edge, there is no danger of the bronze powder, with which they are coated, discolouring. For those to which we refer an absurdly high price was charged; but there are, surely, enterprising manufacturers to whom it would be worth while to step out of the common track, and produce something of the kind at a *reasonable price*.

## CHROMO-PHOTOGRAPHS.

This term has been used to designate a class of pictures in which the colours are made so to permeate the collodion film that, when viewed from the opposite, or glass side, the tints are sufficiently brilliant, presenting a non-inverted coloured picture. In using this designation to describe these pictures, we must not be understood in any way to indorse the appellation, which is inappropriate and misleading. We refer to it because we believe the term and the process have excited some interest amongst our readers. To describe the method of producing this result, we cannot do better than quote a paragraph from a recent work on "The Principles and Practice of Harmonious Colouring," and then add some observations of our own :—

"The mode of producing this result is simple, and when well done presents somewhat the effect of enamelling on glass. It depends, in the first instance, however, on the collodion film being permeable; this is sometimes the case in ordinary positives taken with a collodion, the pyroxyline of which has been made at a high temperature, thus giving a powdery film. This permeable film, however, is best obtained by the 'Alabastrine Process;' and the best specimens we have seen of the non-inverted coloured positives have been produced by it. The picture having been varnished and coloured—and, if necessary, varnished and coloured again (a little extra care being used to obtain brilliancy in the carnations)—is to be varnished once more with a 'penetrating varnish,' provided for the purpose, which has the effect of projecting the colour thoroughly into the collodion film; the result is, that the positive then viewed from the glass side presents a picture as vividly coloured as on the collodion side."

In attempting to apply this process to ordinary collodion positives, certain conditions must be remembered. Photographers are aware that, amongst the various classes of glass positives—all good enough of their kind—there are two possessing very distinctive features. The first is in many respects somewhat allied to a negative in character; its intensity is obtained by a thick deposit of reduced silver in the lights. In the second, intensity in the lights is obtained by purity of colour in the reduced silver; the deposit is thin, but of a pure white. A picture of the latter class—

the collodion being also powdery or porous in texture—is best suited for permeating with colour so as to produce a non-inverted picture. As is stated, however, in the above extract, by far the finest results are produced by applying the process to alabastrine photographs. The colouring is proceeded with, as we have before described, with powder colours; remembering throughout, however, that the tint of the colours used will be somewhat modified by the final coating of “penetrating varnish.” The nature and extent of this modification can only be learnt by experience—in some colours the modification being in depth, and in others in tone. Some writers have recommended the use of turpentine as a varnish for producing these pictures. We would, however, caution our readers against its use; for, in addition to producing very imperfect results, it is sure, eventually, to spoil their pictures, by becoming discoloured and yellow. These pictures should always be taken on colourless glass, and should be backed with velvet.

This method of colouring is peculiarly adapted to uniforms, in which it is important that the various ornaments should not be inverted as regards right and left. We have found it possible to obtain a very perfect scarlet coat by using this method on an alabastrine photograph.

#### COLOURING PAPER PHOTOGRAPHS WITH POWDER COLOURS.

Paper photographs are most frequently coloured in water or oil colours, and of the method to be pursued we shall speak in the proper place. Very fine results, however, may be produced by the skilful colorist through the use of powder colours, and with this advantage over the other methods we have named—that the picture retains all its photographic characteristics; it remains a tinted photograph: whilst in using water or oil colours it often happens that the photograph becomes merely the basis on which to paint a picture—more or less of the photograph being obliterated at every stroke of the brush. The use of powder colours, however, renders imperative the possession of a photograph perfect in all respects to work on, as little or nothing can be added with the pencil, except colour, to the already existing light and shadow.

Albumenised paper prints are most commonly used for this purpose, although plain paper may be used if the surface be treated with a sizing preparation to which the colours will adhere. The picture should be mounted on cardboard, and, if possible, passed between steel rollers or hot pressed. The colours are then applied in the same way as in colouring glass positives; we must, however, be careful to apply the tints of the required depth at once.

If the photograph be not quite so perfect as we have stated it should be—that is, if it possess some black shadows quite destitute of detail and drawing—there is even here a succedaneum to which the colorist may resort. With the point of a knife the surface of these black shadows may be slightly abraded, in such a manner as the drawing may require. To these half-lights, thus “taken out,” the proper dry colour is then to be applied; it will be found to adhere perfectly. Instead of “taking out” lights in this way, they are sometimes carefully stippled on with body colour, and the dry colour then applied over it. These methods are more applicable to landscapes than to portraits.

## COLOURING IN OIL.

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THE use of oil colours for finishing photographs has come very much into favour the last few years, not simply for the beauty and richness of the effects which may be produced, but from the conviction that the permanence of the photograph is very considerably increased thereby, the colours themselves and the subsequent varnish largely protecting the picture from outward destructive agencies; so that, if the print have been fixed and washed with anything like adequate care, it may, when coloured in oil and varnished, be regarded as a very near approximation to entire permanency. To the uninitiated, the attempt to colour in oil appears very formidable, and one attended with greater difficulties than the use of water colours. This idea is, we apprehend, founded on a mistaken notion. In either case, some knowledge of drawing is necessary to perfect success; but the use of vehicles which preserve their transparency when dry, such as oil and megilp, must offer the greatest facilities to the tyro for preserving the likeness whilst colouring the photograph.

### TO CHOOSE THE PHOTOGRAPH.

There are two modes of looking at the subject of colouring: one which professional artists most commonly adopt, of regarding the photograph as the basis of a painting—the other, which photographers are most likely to prefer, of regarding the photograph as a picture perfect in itself, merely requiring the addition of colour in its most simple and transparent form. The latter plan will not always give the most perfect finish, or the most brilliant results; but it will be much more easily practised by the entire novice, and we recommend him to confine to it his first efforts; if he can ultimately achieve more, so much the better. To succeed, *then, in this style, it is necessary to select a perfect photo-*

graph to work on. It should be clean, sharp, and brilliant, with pure lights, well-marked shadows, and good gradation of half-tone. Heavy abrupt masses of shadow severely task the skill of the practised colorist, and would be a complete barrier to the success of the novice. A warm grey or purple brown, not too heavy, is the best tone to select; a black, inky-looking picture should be avoided.

#### TO PREPARE THE PHOTOGRAPH.

For colouring in oil, a print on albumenised paper is best. It should be mounted on cardboard, taking heed to have the gelatine, glue, or whatever may be used for mounting it, free from small pieces of anything hard, which would cause small inequalities in the surface, for these would show very much in the finished picture with a varnished surface. The photograph must then be well sized with a solution of gelatine or Salisbury glue, applying it with a broad, flat camel's-hair brush. Experience will be the best teacher as to the thickness of the sizing. If it be too thick, it will be apt to crack off; and if too thin, the oil will be absorbed into the paper, and will "bear out" unequally in drying. When the sizing is dry, the picture should be hot-pressed, or passed between steel rollers. It is then ready for use.

#### MATERIALS.

These should be purchased by the beginner ready for use; to commence with, the equipment need not be very expensive, but it will be decidedly best to procure a complete box of oil colours, &c., prepared for colouring photographs. The necessary articles are colours in tubes; various vehicles, and varnishes; palette, palette-knife of steel, and another of ivory for use with colours which injure by contact with iron; brushes, and a rest or Mahl stick.

Before proceeding farther it may be desirable to explain a few technicalities descriptive of processes or modes of operating in the use of oil colours.

*Glazing* is the application of a thin, transparent film of colour, for the purpose of modifying the tone of another colour already applied. It is generally used to give depth and richness to shadows; or, sometimes, to modify or subdue



lights, giving them warmth or coldness as may be desired. As this is a process much used in colouring photographs, it is important to the beginner to understand it. Glazing is generally effected by the application of transparent colours diluted with megilp; semi-transparent pigments may also occasionally be used, but will require to be much diluted. Much greater depth and transparency in shadows, and richness in many colours, is obtained by painting a little brighter than is desired in the first instance, and subsequently glazing to the requisite tone, than can be easily obtained by any other method. In colouring photographs it will often happen that but little is required in the shadows beyond modifying their tone of depth by glazing.

*Scumbling* is a somewhat similar process with an opposite purpose. It is the application of opaque colours, or colours rendered opaque by admixture with white, for the purpose of making the objects to which it is applied cooler and less defined. It is rarely required in colouring photographs, except in landscape backgrounds, where it may be used to give atmosphere and distance to objects which appear too prominent.

*Impasting* is the application on the lights of the picture of opaque colour in a thick solid body. In colouring photographs its chief use will be to give brilliancy to jewellery by the mechanical relief of the impasted colour.

#### FIRST PAINTING.

The material ready, and the photograph prepared, commence by colouring the face. For this purpose lay the palette with the following colours: white and Naples yellow; white, Naples yellow, and extract of vermilion; white, Naples yellow, and light red, for the lights and local colour. For the half tints use white and terra verte; white, terra verte, and Indian red; white and Indian red; and light red and burnt umber. For the carnations: white, pink, madder, and vermilion. For the novice, especially, it will be well to keep the colours well thinned with megilp. Commence by glazing the shadows with a warm tint. Remember that the tone of the photograph and the complexion of the sitter will materially modify the choice and preparation of colours. In many cases, a mixture of light red and burnt umber will be suitable for the first glazing of the deepest shadows; for

the next gradation of shadows use terra verte and Indian red; and for the pearly tints, white and terra verte. For the high lights white and Naples yellow, with occasionally a little pink madder, will be required; these must be used without much thinning, so as to obtain a good body. They should be applied with as much accuracy as possible at once, as their brilliancy and freshness will be injured by much working with the pencil. Graduate gently from the high lights to the local colour, and blend this softly with the shadows, using grey tints for the purpose. The lines about the mouth, nostrils, and eyelids may be strengthened with Vandyke brown and pink madder.

In addition to the colours we have named for the first painting, some tints for hair will require adding to the palette. For the various tints of light and brown hair, the following will suffice: white, Naples yellow, yellow ochre, Vandyke brown, and raw umber. For dark hair: black, lake, Vandyke brown, brown madder, cobalt, and white. These tints properly mixed will suffice for hair of almost any colour.

The tints we have described having been applied to the face, the hair will next receive attention, keeping, as a general rule, the lights cold and the shadows warm. Avoid hardness where the hair joins the forehead and temples, using greys to blend them.

The iris of the eye may be coloured with Vandyke brown, burnt sienna, indigo, or cobalt, as the natural colour may require. The lips may be coloured with vermilion and pink madder, keeping the upper lip, which is in shadow, low in tone. The hands should now receive their local colour.

The draperies may be commenced by glazing the whole with an appropriate colour, on which the lights and shadows will be subsequently strengthened; of the most suitable colours we shall speak hereafter.

The background may be commenced, keeping it somewhat lighter than is intended; the choice of colour, of course, depending on the complexion of the sitter.

When the first painting is completed, the picture must be put carefully away where it will be free from dust, until it is dry; the time required will vary with the temperature and nature of the vehicles used; but the second colouring should in no case be commenced until the first is thoroughly dry.

## SECOND PAINTING.

As we have before explained, much of the effect of oil-painting is obtained by applying one coating of colour over another. As this cannot be done until the first colour is dry—and some hours, at least, are required for this purpose—it is customary to divide the work into three paintings. In some cases, the colouring might possibly be completed in two paintings, and in others, especially where very high finish is required, several more paintings will be desirable; but in most cases, three will be found sufficient. It is of the utmost importance that the first colouring be completely set before the second is commenced, otherwise the colour will work up, and anything like purity or brilliancy will then be hopeless. The time required will vary according to the temperature of the painting-room, the nature of the vehicle used, &c.; but, in most cases, the colouring may be resumed each consecutive day. It will be obvious that some system must be used to get the whole of each separate painting done without smearing some part of it. To do this, it is necessary to commence at the top left-hand corner of the picture, colouring downward and to the right; by this means the work will be finished above the hand all the way.

Having ascertained that the first painting is thoroughly dry, take a soft, flat camel's-hair tool, charged with poppy-oil, and pass it over the whole surface; after which, wipe away all superfluous oil with a piece of soft kid leather or silk. The effect of this "oiling out," as it is called, which is performed between each colouring, is not only to give softness to the work already done, but disposes the after painting to unite with that already applied.

Now, lay the palette with the following tints:—White and Naples yellow; white, Naples yellow, and rose madder; white, light red, and terra verte; white, Indian red, ultramarine, and raw umber; white, purple madder, and ultramarine; vermilion, raw umber, and rose madder.

It is important to have a duplicate copy of the photograph at all times under the eye, a strongly-defined print being best. Carefully consulting this, proceed to glaze the shadows with a tint appropriate to the complexion. In doing this, remember that the shadows of flesh in dark or sallow persons incline to green, or a greenish grey; in fair persons, they *partake more of blue*; and in very florid complexions they

incline more to purple. Strengthen the lights, and blend them with the shadows, by means of delicate greys. Glaze the reflexes with a warm, transparent tint. If these are wanting in the photograph, they may be put in with a little white and Naples yellow, and subsequently receive warmth and transparency by appropriate glazing. Soften all hard lines about the face, especially the eyebrows and junction of the hair and forehead.

Proceed to the background, which may now be advanced to about the desired colour. This, as we have before said, will much depend for its tint on the complexion of the sitter, and the colour of the draperies; the hints we have given, in our remarks on the relations of colours, being borne in mind. Take care that the background is relieved by light and shadow, and that the figure does not cut it too hardly, especially about the head, or it will appear inlaid. For plain backgrounds the following tints, properly mixed, will give a variety of good effects:—

Black, white, and Indian red.

Black and Indian red.

Black and burnt sienna.

Black, white, and lake.

White, raw umber, Indian red, and black.

Brown ochre, white, and burnt umber.

Prussian blue, black, and white.

Raw umber, terra verte, and burnt sienna.

Brown umber, yellow ochre, and lake.

Landscape backgrounds will require a greater variety of tints, depending on the nature of the objects introduced. For a sky, the following colours will be found useful:—French blue, or ultramarine, white, vermilion, Indian red, madder lake, yellow ochre, Naples yellow, and raw umber. It is necessary to observe, that the background of the photograph, on which to paint a sky, should be of a very light tint, as nearly white as possible, otherwise it will be impossible to paint a clear, transparent aerial sky. We would caution the beginner, however, against the background obtained by cutting out and masking the figure, as the hard outline thus produced would materially increase the difficulties of even the experienced painter. The intense blue will be, at the zenith, gradually growing paler, until it mingles with the rosy and yellow tints of the horizon. Avoid too blue a sky, and be careful, in graduating the tints of blue towards the

horizon, not to produce a green one by mingling blue with yellow. Clouds will vary with the character of the sky. The following tints, variously combined, will often serve:—French blue, white, Naples yellow, Indian red, madder lake, black, and brown madder.

The distant scenery in the landscape background may be painted with the same tints, a little modified, as the sky. The sky line, or point where the landscape and sky meet at the horizon, must be sufficiently well marked, without being hard. The sky tints, modified with deeper greys, will serve for the distance, the forms as well as colours being vaguely defined—for clearness, and sharpness of form and definition, as well as brightness of colour, are lost in the distance. It is no part of our object in this manual to give instruction in drawing; but unless the colorist has some knowledge of the art, it will be very unwise to attempt to paint a landscape background: all we need say on this part of the subject is, to repeat what we have already observed—that all objects in a background should be subservient to the principal figure, and should be quiet and unobtrusive in colour and form. In painting the middle distance and foreground of the landscape, therefore, whilst using brighter tints and sharper definition, the idea of atmosphere and distance must still be preserved, even in the most advancing parts.

The draperies in a good photograph have already the form of fold, and the texture of material so admirably rendered by light and shadow, that it is rarely necessary to make any alteration in these respects—colour is all we have to add. The following tints, for various colours of silks and satins, will be found useful; they must be modified in some cases to suit the tone of the photograph:—

*For white silk or satin:*—The lights, white; middle tints, white, black, and sometimes a little Indian red; reflects, white, French blue, and brown ochre; shadows, black, white, and Indian red.

*Blue silk or satin* will require either white and French blue, or white and Prussian blue, for the lights, depending on the tint required; middle tint, the same, with more blue; reflects, brown ochre added to the above; shadows, ivory black, Prussian blue, a little white, and sometimes a little vermilion.

*Red silk or satin* will require the following tints, modified

as the red may approximate to scarlet or crimson :—For lights, yellow ochre, light red, and white ; middle tint, Indian red, crimson lake, and vermilion ; reflects, vermilion and light red or carmine, and yellow ; shadows, Indian red, lake, vermilion, and a little ivory black.

*Yellow silk or satin* :—King's yellow and white for the lights ; middle tint, yellow ochre, brown ochre, white, and a little black ; reflects, yellow ochre and light red ; shadows, brown pink and burnt umber.

*Green silk or satin* :—Lights, Prussian blue, King's yellow, and brown pink, or emerald green and white ; middle tint, Prussian blue, brown pink, and King's yellow ; reflects, Prussian blue and brown pink, and sometimes a little lake ; shadows, the same, with more Prussian blue.

*Black silk or satin* :—Lights, light red and a little white ; middle tint, lake, white, and ivory black ; reflects, lake and black, and sometimes a little brown ochre or brown pink ; shadows, lake and ivory black.

*Cloth fabrics* will often require the same tints, differently combined, and painted with less brilliancy. Black cloth will first have the shadows strengthened by glazing with lake, Vandyke brown and black, and the lights then painted with a mixture of black and white.

*White linen* will require the same tints as white satin, but less brilliant ; sometimes the whites of the photograph, with very slight modifications, may be left as they are.

*Gold ornaments* may be painted with yellow ochre, or yellow ochre and raw umber ; the shadows, burnt sienna and raw umber ; and lights, Naples yellow.

In the second painting, the work should be sufficiently brought forward to have a tolerably finished effect. In portions of the picture requiring softness and blending of tints, the badger-hair softener may be used cautiously. This will also reduce the surface to a level, and remove the marks of the brush where the handling is too bold or abrupt ; but care must be used not to produce a woolly effect.

In this painting, the colours must be kept pure and brilliant, as it is easy to soften them afterwards ; and some allowance must be made also for the subduing and toning effect of time.

The second painting concluded, again carefully put the picture in a place free from dust to dry.

## THIRD PAINTING.

The second painting thoroughly dry, the process of oiling out must be repeated prior to commencing the third painting. In this painting the picture will usually be finished; extreme care will therefore be required, and no pains must be spared to obtain a faithful likeness, as well as an artistic picture. The various spirited touches which give life to the head must now be put in. Soften hard lines, especially about the hair and eyebrows; the shadows of the face may be again glazed with a warm transparent tint; points of high light, that are to remain unsoftened, must be put in with a light, firm hand, a small pencil being used for the purpose. The colour of the cheeks and lips must now receive their finishing touches, keeping them pure, and as brilliant, at least, as nature.

The draperies must now be retouched, strengthening the lights by bold touches, and deepening the shadows by another glazing where it is necessary. Finish the painting of the background, and examine carefully that no little point is neglected. The painting is then completed, and ready for varnishing.

The last process in oil painting is

## VARNISHING,

by means of which the colours are made to bear out in their fullest freshness, brilliancy, and force, and, at the same time, the work is preserved from injury and decay. Where circumstances render it convenient, this is better delayed for a few months after the painting is completed. The reason for this is found in the fact, that linseed and other oils, in the process of drying, and by exposure to the atmosphere for the first few months after their application, attract oxygen, and become decolorised, by which process the pigments with which they are mixed acquire additional purity. The picture should be varnished when this effect is produced, by which means further oxidation, which would result in the oils becoming again dark and discoloured, is prevented. In many cases it will be inconvenient, or impossible, for the photographer to allow this interval to elapse between painting and varnishing his picture. He must assure himself, however, that his colour is sufficiently well set before *attempting to varnish*, or he will inevitably ruin his work.

Mastic varnish will be found, for many reasons, the most suitable for the purpose. Copal, and the hard varnishes generally, when applied to a newly-executed painting, are very apt to damage it by cracking. It is eminently conducive to good varnishing, in all cases, that it should be performed in fine weather, in a room of moderately warm temperature; and that currents of cold or damp air should be avoided, as chilling or blooming of the varnish would probably be the result. If a varnish have bloomed, a very slight portion of oil rubbed over the surface, and then polished off with a silk handkerchief, will remove it.

In the limited space at our command, we could but briefly indicate methods and processes of painting in oil; we hope, however, sufficiently to enable the persevering student to set efficiently about the work, in which, by care, attention, aptitude, and much practice, he may become perfect.



## WATER COLOURING ON ALBUMENISED PAPER.

For this purpose we prefer the so-called "Photographic Water Colours," made by different colour manufacturers. Those are best which contain rather more gum than usual, which, of course, renders them more transparent, and consequently more suitable for this purpose.

Sable brushes will be found to work best, always observing, that the larger the brush you can manage to manipulate with, the freer will be the work.

There is an article also sold by the colour makers, called "Water Colour Medium," which will be found capable of preserving transparency throughout a picture, and especially in the shadows. In the absence of this, however, make a gum to work with of quarter ounce gum arabic, teaspoonful of whisky, lump sugar about size of a filbert, and two ounces hot water; when dissolved, filter through muslin (the greatest cleanliness being necessary), and it is then ready for use.

The only other material to be mentioned is, the "burnisher," an instrument consisting of an agate, set in a mahogany handle, to enable the hand to grasp it firmly; the best form for which is given in the accompanying diagram.



The use and purpose of this instrument is to render the surface of the photograph hard and smooth, by rubbing on the back of the picture, with great pressure, whilst the front is laid upon a flat piece of *thick plate glass*, and, without which, no artist can make his picture look anything but rough.

It is strange that, in most works at present published on this subject, the burnisher and glass plate are omitted, and no reference made thereto, when they are used by every photographic colorist upon paper, of any note, in London, and cannot be dispensed with; in fact, it would be impossible to work well

upon paper unless the surface were constantly kept hard and smooth.

A photograph, in printing and toning, may be made of different colours; that most convenient for painting is something between a cool grey and bright chocolate, inclining to the former—having the highest lights upon the flesh, as nearly white as possible—minding not to have any creases or cracks in it, as then the colour would run in, making a palpable line.

You will also require a copy something darker, to be used as a guide during the progress of the picture, that you may not depart too much from the likeness.

#### COLOURS AND THEIR COMBINATIONS.

In the following we have only named such colours as are most frequently mentioned in this work:—

*White*.—Chinese white is unchangeable, being the oxide of zinc, but, being slightly transparent, is not so good for giving bright points as permanent white.

*Crimson lake*.—A generally useful colour—the most transparent red known; entering kindly into all tints connected with purple, lilac, &c. Crimson lake, thinned with water, makes pink as well as any colour.

*Vermilion*.—Chinese vermilion is brightest. This colour, with lake in half tints, is good for military coats, &c.

*Carmine*.—The purest, brightest, and most intense crimson known; may be deepened by glazing with lake.

*Indian yellow* is the brightest transparent yellow we possess, therefore most necessary in painting photographs: mixed with Roman ochre, and slightly washed on, it represents gold well enough for tinted pictures.

*Chrome*.—There are several degrees of chrome. They are useful as body colours in painting the light parts of yellow drapery, gold lace, &c.

*Gall-stone*.—A strong yellow—transparent—suitable for sallow complexions, such as many old people's, whose colour is principally made up of warm yellow in the lights, and purple greys; also useful for glazing draperies, which, in good photographs, want nothing more than a transparent wash.

*King's yellow*.—Used for bright light touches on gold, &c.

*Burnt sienna*.—Very rich yellow brown, inclining to red, used, with lake, in the carnations of warm complexions.

*Raw sienna*.—A rich transparent yellow, useful, with lake or vermilion, to warm up the flesh tints.

*Prussian blue*.—The deepest, most transparent blue known.

*Antwerp blue*.—A delicate transparent blue, used in flesh greys.

*French blue*.—A bright opaque blue, equal in effect almost to ultramarine by day, but looks black by gaslight.

*Cobalt*.—A light bright opaque blue, used with lake in almost every pearly grey tint throughout a head.

*Indigo* is a deep grey blue, more suitable for backgrounds.

*Ultramarine*.—Extremely brilliant opaque, useful for the lights in blue silks, satins, &c. ; too heavy for flesh.

*Ivory black*.—Used with white for the lights in black cloth.

*Lamp black*.—With lake, for intense shadows in cloth.

*Neutral tint*.—A purply slaty colour—dark grey—used for deepening cool backgrounds, semi-transparent.

*Vandyke brown*.—A fine chaste brown, used for backgrounds.

*Madder brown*.—Useful for deepening the shadows of flesh.

A brown of general application is to be made of burnt sienna and black ; may be varied and made either warmer with more sienna, or cooler with more black.

*Sap green* is suitable for painting backgrounds of an olive colour, which it represents added to pan brown in various degrees.

*Emerald green*—an opaque bright colour—may be used as a body colour for the lights of silk and jewels, to be glazed over with a transparent green made of Prussian blue and raw sienna, when a rich effect is produced.

*Purple* is made of blue and crimson lake ; the royal purple being nearly all lake.

*Orange*.—Crimson lake and Indian yellow.

#### FIRST COAT OF COLOUR.

However simple the following may appear, it is the result of many experiments. At first, to even a skilful artist, it is a matter of difficulty to convert a dark photograph, pale and death-like, with grey, harsh shadows, into the fleshy look of life, without injuring the resemblance. Some employ one method, some another ; some try to kill the photo-

graph by labouring at it, and thereby kill the likeness, as before observed. Having chosen the light copy as the most suitable for operating upon, it should be first pasted on hard thin millboard. Then take Indian yellow and crimson lake (the two brightest and most transparent of the appropriate colours we have). With these, in a thin wash, using a large camel's-hair brush, go all over the flesh in a light sweep, minding not to go over the same place twice while wet, as that would disturb the albumen, making the picture rough.

Here again a difficulty is presented, which completely stops the painter, and appears insurmountable at first: the albumenised paper is greasy, consequently the colour will not enter it.

We have tried washing with gum, and also with ox-gall, too; the colour, however, does not work kindly over either, but looks dirty and spotty. The best plan is the following:—Take a large dry camel's-hair brush, wet it in a weak solution of isinglass, and with this go all over the photograph, previously to giving the wash of yellow and lake just mentioned, which the paper will now take, and will always receive freely afterwards.

The picture, having received a first flesh wash, will dry in two minutes; then lay it, face downwards, on the clean plate glass, and burnish it, pressing heavily on the back with the burnisher until the dead surface produced by this first wash is made to shine.

Next, with a colour made of Indian yellow and vermilion, wash thinly over the deep shadows in the flesh. This being semi-opaque, bright and warm, completely converts the dead-grey photograph into the semblance of flesh. Let this be carefully done, watching the effect, as it comes up, to see where it may be made a little warm without being too red; which, if necessary, do with a second wash of the same colour, observing that the shadows upon the cheek are to be made redder than upon the forehead.

*Hair.*—Afterwards give a wash for the lights of hair, which wash may be its local or normal colour; if brown, use vandyke brown; if black, use indigo first for the high lights, and, by the side of those high lights, sepia, with vandyke brown added for the shadows. If red hair, use Venetian red, burnt sienna, and gamboge for the general colour, with another wash afterwards of same, adding vandyke brown for shadows.

Hair is sometimes so highly reflective, as to be grey or purple in the high lights; black hair, nearly blue. These grey lights may be added with body colour thinly in the finish.

For flaxen hair, use Roman ochre; more ochre in light, more sepia in shade; bright light inclined to a lilac, pale.

Chestnut hair: burnt umber, lake, and sepia, rather purple in deepest shadows.

Red hair: crimson lake, Venetian red, and burnt sienna.

Burnt sienna alone imitates some colours of red hair, but it is rather "foxy;" the colours first mentioned may be modified with Roman ochre if required rather yellow. When a sitter has this coloured hair, endeavour to introduce some colour about it to destroy the disagreeable appearance of redness, such as white or pink ribbons; but never have blue if it can be avoided, as such a colour, by contrast, will increase the redness.

Dark brown hair is represented by sepia, adding a little lake in the shadows; and in the high lights, purple.

Grey hair, reflecting some portion of blue, comes out in the photograph lighter than in nature. Sepia and cobalt make a general tint, to be varied by burnt umber and neutral tint, as the case may be. As people do not care to have their hair appear too grey, white may be employed in the vicinity to destroy it; but black increases its whiteness by opposition.

Auburn hair: burnt umber, lights purple.

In finishing, a few stray hairs may be painted over the background, beyond the general masses of hair, to give an appearance of finish; and the same with a few hairs upon the face, if admissible.

*Eyes.*—Wash in the local colour of the eyes. It will be observed that brown eyes come out almost black in photographs. Here again is a difficulty which perplexes many—to make those eyes, which in the photograph are black, to appear bright and transparent, such as they are in life. Nothing can be more beautiful than a finely painted brown eye, with its luminous colour. We have succeeded best by first washing on an opaque yellow—say deep chrome—and then glazing with burnt sienna and vandyke brown, always using gum in glazing. When the chrome is laid on, it should be tolerably thick, so as to hide the dark colour of the photograph underneath; and, when dry, the picture

should be again burnished, to make this smooth previous to glazing.

If the subject has eyes in which blue predominates, the photograph will give them *too light*; this offers an advantage, inasmuch as we can get them down to any depth or brilliancy by glazing with such colours as Antwerp or Prussian blue, or, if necessary, with neutral tint, or indigo added as the case requires.

But we have always to use brighter colours than would appear correct, strictly compared with the living model, because we have a grey (the photograph) underneath, which comparatively neutralises that laid over by being seen through.

So that having washed on whatever colour is required for the eyes, the hair, the shadows of flesh, give a few minutes for drying, then burnish well again.

If the wash over the shadows of the face and hair appears dim and flat, they can be brought up by going over them with gum or medium. This being done, take crimson lake with medium, and faintly wash on the carnation of the cheeks; also feebly go over the ears with same; to this add vermilion for the upper lip, using vermilion alone for the lower one. Give a second wash on the cheeks of lake, keeping this wash within the first, which, being lighter, will be soft. Now take, with the medium, Antwerp blue, or any transparent colour, according to complexion; with this introduce the cool greys where they are required, such as side of forehead, temples, round about eyes, corners of mouth, under chin, neck, and by the sides of all deep shadows; which you have made warm with vermilion and yellow, because flesh is always grey by the side of shadow.

If the complexion be very fair, use more of this cool grey; if warm, it will be useless, or worse, tending to blacken the effect of what follows. Use the burnisher again.

Now begin by laying the colour on in small strokes with fine sable brushes, using medium in every touch. You will now, by holding both photographs at a little distance so as to get the general impression, see that the effect of your picture is *flat* compared with the dark copy, which results from your having reduced the white lights of your picture something by the first wash, and the shadows being lighter by washing on the tint of vermilion and Indian yellow, thereby comparatively destroying the strength or force of

light and shade contrast in the head, and, moreover, causing much of the modelling to disappear. You have now to recover these properties, in doing which you may produce any amount of delicacy, any complexion, any touch you please, because repeatedly burnishing upon the paper has hardened it, so as to admit of nearly the same process as painting upon ivory; and whilst working in again the anatomy of the face, you can etch on the nicest tints to resemble those of nature. Here it may be well to speak of the necessity of painting from the living model; there you have presented to you the object naturally, which you will treat, to the best of your abilities, as you see it, and not as others would, because no two painters see the same thing quite alike; and if you try too much to imitate another's method of representation, and that method not, perhaps, as you yourself would see the thing, you will not be successful even in equalling that style you are endeavouring to follow, because no one can work well against his own feelings. There is an appearance of originality and truthfulness in works by artists whose practice is to paint everything from life, which at once distinguishes them from those by painters who have rather studied the works of others than nature.

However, to proceed, it is understood that we have now laid on the cool greys in various parts of the face, somewhat in excess of coldness, because over these we now commence by etching a general colour of warmth, regulated by the complexion; if a very fair one, lake, and a little Indian yellow; if warm, more yellow, with a little raw sienna, still further to deepen the tone, if necessary. Use this, in various degrees, to work in the anatomy all over the face, the forehead first, and afterwards the cheeks; having done which with very feeble colour, go over, when necessary, again, a shade deeper, carefully graduating the tones, so as to round up the bones and muscles softly, making the stippling so soft as only to be just perceptible. This stippling is to be in large soft strokes, only perceptible in their effect, and simply to answer for washing, being substituted as calculated to render the face uniform sooner than could be by broad washes. Where on cheeks much warmth is required, use lake and burnt sienna in finish to deepen with.

The effect of going all over the head with one general colour, and that the colour of the complexion, is to produce *a breadth and solidity*, at once varied in its tints, from the

circumstance of those cool greys and bright laky colours underneath shining through. It may be considered as equivalent to glazing in oil.

During the progress of the head, it will be necessary to proceed also with the drapery, &c. The consequence of completing any one part before a general impression of what the picture is intended to be has been produced, is to disappoint the eye by making it appear more finished before the background and draperies are painted than after. First, therefore, complete your background, next your draperies, and lastly the head.

Do not materially alter the tone of any part, especially the background; for supposing it were made much darker than the shadows of the face justify, this would entail the necessity of making your head deeper also, or it would look flat and unfinished.

#### FINISH.

We shall now make such suggestions as may be calculated to complete a portrait which has gone through the preceding stages.

A little Chinese white mixed with lake, and worked in a few places over the cheeks, will give much sweetness to the colour—that healthy red found upon peaches. A few touches of the same, rather paler, upon the lips and ears in a few places. In very deep ruddy faces, burnt sienna and lake with white, or red chrome, vermilion and white, or red chrome and vermilion alone, may be used for the same purpose. On the forehead of a very fair face, a little pure white may be thinly touched on in the high lights, &c.

Touch in, with gum and lamp-black, the black pupil in centre of iris; afterwards, with Chinese white, the bright point. Then, with lake and ivory black, touch in lines faintly to define the eyelids and shadows of eyebrows, line between lips (faintly), locks of hair over face, if any, &c. Any shadows cast by locks of hair, &c., upon the forehead or cheeks, may be coloured warmly with a colour made of vermilion and madder brown, edged into the light flesh with a blue or purply-grey. See Lawrence's heads for this.

For the deepest shadows throughout the head, use madder-brown, which, worked over the *previously light warm* colour, will give a good effect.

Where a little purer blue is required, or any pearly tint



wants sweetening, use a little white mixed in the colour, and, with medium, touch delicately upon the part ; this will produce any delicacy of tint.

#### LIGHT AND SHADE.

It is difficult to understand *why* things appear as they do, and are what they are. We often, on seeing a picture, exclaim—"How very good!" "What fine relief!" "How true to nature it seems!" yet seldom stay to discover how or why it is so. No one can represent well that of which he does not thoroughly comprehend the meaning.

The cause of some really good photographs representing life so well is, that in them the effect is produced by similar means as in the *real object*. Now an object is made to appear relieved much from this cause ; the lights and shadows in the front are in stronger contrast than in those parts which recede, the outline is bolder and more telling, whilst those parts that retire are softer, neither lights nor shades so strong, while the extreme edges are so soft as at an ordinary distance to be not plainly traceable. Hence not making much impression upon the eye, those parts recede back ; and at the same time, owing to the fact that those parts which do come out, make a strong impression upon the eye, they appear to stand in relief. It cannot be occasioned by the same sensation of touch, as in the case of blind people, who receive impressions of things by the feeling of touch, that we know a thing to be round ; because we feel confident that certain things we see are round without approaching to touch them. So in a sharp photograph, which is really flat, the effect is that of relief, because the lights and shades are graduated just as in the life.

It is the more necessary to speak of this, as ignorance of such things is the cause why many make such flat, hard pictures. They make the outside lines too palpable, and do not keep up sufficient force in the front parts of objects, destroying all the charm and appearance of reality, which proves plainly they do not understand what they are doing.

It will also be observed there is a reflected light softening all the sides and edges of objects in shadow. This reflected light will be found under all circumstances to soften those lines, which, being shadow, would cut hard and black against *anything light behind*, if it were omitted in a picture, also

materially conducing to the soft impression, which, in nature, pervades all things. Unskilful painters have sometimes the shadows down one side of the face, or a coat cutting hard against a background, thereby breaking up all appearance of relief and softness.

Further, there is a principle called "keeping," which means the just balancing of all the lights and shadows throughout a picture or in a face, so that they do not anywhere seem to startle us. If one part be made too dark for the others, *i.e.*, darker than necessary to make out the form of whatever it is upon, that will at once throw all the rest of the shades, &c., out of use, and itself appear dirty.

A most perfect picture may be destroyed by introducing three or four harsh touches about any feature, or by making the light, or certain portions of a face too bright.

It will appear from this how much attention to light and shade is necessary to preserve fidelity of likeness; for a photograph is no other than a mass of delicately graduated lights and shadows. Then, by the better understanding what produces these lights and shadows, it will appear what consequences may be expected to result from a deviation from any of them.

#### HANDLING.

When a student of painting has become sufficiently skilful to feel sure of his touch, he naturally steps out from the very cautious style of proceeding with his picture, and feels a desire to produce effects more and more telling, until, ultimately, if he succeed, a masterly, forcible style of execution results. He no longer feels it necessary to stipple so faintly and so finely; and whereas, at first, he would not have thought it prudent to venture to lay on his colour more boldly than in scarcely visible dots or short strokes, from the fear of destroying the form of any part, he now can safely finish his picture in palpable lines. This is done to imitate the fine racy effect visible upon steel engraving; and, when conducted with due care, it produces a wonderful relief. To accomplish this end, having got on almost the full effect of colour, light, shade, and form, as directed in preceding chapters, the head may be gone entirely over again with touches, very fine, yet palpable, composed of the right colour for each place worked upon, and keeping the touches

lighter in light parts, and stronger in shadow. The direction of these strokes will be suggested by the form of the feature they represent; for instance, on the front of a forehead, being nearly flat, they would be comparatively horizontal lines, whilst rounding down the sides of plump cheeks, they would be curved to produce rotundity.

The colour used will be regulated also, in some measure, by what is previously laid on; and, as warm colour tells best over a cold one, those underneath being cool, these lines will be made in warm colours. And it is well to observe that, in the preparatory stages, you should use such colours in every place as will, when worked over with this warm colour, produce the tint required. As, for instance, that pink, pearly hue round about the eyes in fair people—having washed them in previously with blue, if you line over that with lake, the effect is complete, and may be modified to suit any complexion: bilious people are rather yellow about their eyes, in which case add yellow to the lake.

The lines should not cross each other diagonally, as seen in Fig. 1, but as seen in Fig. 2. The interstices are to be filled up with dots, as in Fig. 3.



Fig. 1.

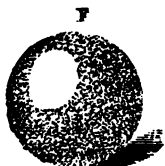


Fig. 2.

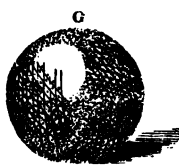


Fig. 3.

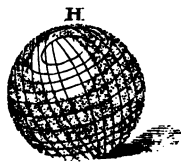
This process gives such a raciness of effect and finish, that when properly conducted no picture bears comparison in point of force, as will be seen below in figures F, G, and H.



Without lines.



The process recommended.



Too hard and formal; lined before the shadows were worked up.

The reason that a head finished in this way stands in *stronger relief* than if without lining, is that each line and

touch makes of itself a distinct impression upon the eye, and comes out, from a similar principle that a distinct sound seems nearer than a soft one.

One thing more on this part of our subject: never think of using this lining finishing process until the effect of light and shade is almost complete—the likeness also; otherwise you will get a hard, powerful effect like network, perhaps destroying the likeness; and upon this network you cannot regain it without extreme difficulty, because it prevents you seeing the light and shade so well.

#### BEAUTY.

A handsome face is of an oval shape, both front view and in profile; in the latter it will be seen how gently the forehead and chin recede; how beautifully the top and back of the head are rounded, no one organ predominating to destroy its even line. The nose, slightly prominent in the centre, with small, well-rounded end, fine nostrils; small, full, projecting lips, the upper one short and curled upwards in centre, the lower one slightly hanging down in centre, both turned up a little at the corners, and receding inside, of a vermilion colour; chin round and small; very small, low cheek-bones, not perceptibly rising above the general rotundity. Eyes large, inclined upwards at the inner angles, as in the figure, downwards at outer angles; upper eyelids long, sloping beyond the white of the eye towards the temples.



Eyebrows arched, forehead round, smooth, and small; hair rather profuse, and dressed to follow the form of the head, as a beautiful face is disparaged by having the hair wrongly dressed. Of all things, do not draw the hair over the forehead, if well formed; but, rather, up and away. See the *Venus de Medicis*, and, for comparison, see also Canova's *Venus*, in which latter the hair is too broad.

An intellectual head has the forehead and chin projecting, the high facial angle presenting nearly a straight line; bottom

lip projecting a little, eyebrows rather near together and low (raised eyebrows indicate weakness). Broad forehead, overhanging eyelids, sometimes cutting across the iris to the pupil. For further information upon this subject, see Lavater, or some such author, on "Physiognomy."

#### EXPRESSION.

When people sit for photographs, they generally contract their eyes to avoid the glare of light. With the eyes, the whole face becomes contracted often, and a disagreeable expression results. To correct this in painting, as a general rule, the upper eyelids will require raising and widening; lower eyelids drooping; irises will require enlarging, eyebrows raising and opening (as they will probably be drawn together, producing something like a frown), corners of mouth raising, centre of forehead making lighter, and the line down from the sides of nose towards corners of mouth softening. We have seen, in bad photographs of handsome young ladies, deep wrinkles about the eyes, the forehead, and corners of mouth, caused by this drawing up of the face in pain from the light.

Expression can be produced by light and shade without altering the form of lines; for instance, a darkness between the eyebrows in a head, would make it sad and thoughtful; at least, as to the expression on the forehead: then, to convert the whole face from happiness to sadness, it would only be necessary to introduce a darkness on the upper part of the cheek, immediately below the eyes, and below the corners of the mouth; because, if the muscles of the face were under the influence of joy, the light coming over head, such parts as were raised catching the light, would be bright; whence it will easily appear that introducing shadows in these places, or deepening the bright lights too much, would not only destroy the intended expression, but, if carried to excess, produce quite an opposite one.

In these remarks, as also in those that follow, it is understood that the light comes from overhead, for if it came from below, all this would be just reversed.

#### TINTS IN VARIOUS PARTS.

The colour of flesh, under ordinary circumstances, varies *in different parts*, although, to persons who view things

superficially, it may appear only of one tint throughout; yet, if it were painted so, with only different degrees of shade, such a picture placed by the side of one wherein every delicate degree of pearly tint was introduced, the former would be found to suggest only a form of clay, without any of that suppleness or transparency peculiar to flesh, which suggests that blood runs beneath the skin.

Beyond a few leading points of light, it will be found that there are no two parts of a head alike; all is varied; the general tint is, as it were, refined through various conditions; from the warmth of light, through degrees of pearly tints, to the purply hue blending into the warm shadow. On the forehead the tints are more inclined in the centre to yellowness; on the outsides, temples, &c., to blue; sides of cheek-bones, &c., rather warm; indentations at corners of mouth, rather blue; in front of cheeks the tints are fresh and laky; chin warm; neck and bosom, bluish; the latter having its pearly tints visibly increasing to blue. The hands are generally of a pinkish colour inside and towards finger ends; wrists bluish.

#### BACKGROUNDS.

Continue as much as possible to make the background recede, that the face may come well out. All greys and browns recede; all warm colours—reds, yellows, &c.—come out. Any very impressive colour in the background, or any striking object, acts contrary to what is intended, by forcing itself upon the eye and attention; in fact, every part of a picture should be made subservient to the effect of the figure, and none of the accessories should be made so impressive as to be seen before the principal object—the head.

A background should be made to assist the artist in producing a certain picturesqueness of effect, by means of light and shade; in those parts where, to produce relief in one part, it is necessary to sink in another, there shadow is necessary. When, on the contrary, that part which is intended to come out tells strongly against some light introduced in the background behind, a fine effect is produced.

Where, in reference to the colour, you wish to develop a figure having, for instance, a warm complexion, with drapery composed of bright red, yellow, or the like, you will find the

greatest amount of relief result from a bluish sky ; still, have no crude blue, but rather let every object, every tint of colour intended to recede, which all are, more or less, in backgrounds, be softened into a greyish hue. For a warm complexion, some degrees of olive are suitable ; yet this should not be crude, but rather softened with a warm grey or brown.

When the background is defective in the photograph, having marks, &c., resulting from a defective negative, a little of some opaque or body colour may be used ; lay on the colour thinly, and finish with transparent colours ; always observing, as a principle, that the under colours should be grey. A background, like most other passages in a picture, may be made to appear more racy and effective by working warm colours over grey ones.

But glaring red curtains, painted up to the highest pitch of gaudiness, with blue skies, as bright and strong in colour as ultramarine will make them, are all in bad vulgar taste, and no more conduce to the effectiveness of a picture painted according to nature in other respects, than a screeching blast, blown by some bad player, from a horn, would contribute to the beauty of a chord in music.

A picture, whatever the subject, should possess the leading attributes of brilliancy, richness, harmony, softness, and tone. Brilliancy is the purity of each colour, without crudeness ; richness, the representation of colours made mellow ; softness, the nice gradation of the degrees of colour, light and shade ; harmony, the arrangement of colours by the side of each other, so that they shall one seem to assimilate with the other, and that, however opposite in their natures, they may appear to be lighted by the same source, and belonging to the same piece ; whilst tone is that quality which gives to a work a decided nature—as, for instance, some pictures are said to be of a “pale tone,” some of a “rich tone,” others of a “mellow tone,” some of a “deep tone,” so that a picture wherein every object was imbued with mellow browns in their shadows, and mellow, creamy yellow lights, would be considered of a “fine warm tone” as to colour, and as to light and shade, when the same principles were used in the just arrangement and gradation of lights and shadows.

It is necessary to make this clearly intelligible, that the

student run not into a common fault of painting various objects in one work too crudely; for although, by contrast, every object may appear to possess only its own colour, it is, nevertheless, so affected by surrounding objects reflecting their colours upon it, and all receiving one general tone from the general nature of the place wherein they are situated, as, to a certain extent, to partake of some of each other's colours, so that painters, to represent this effect, have, some of them, especially the old masters, a practice of painting their pictures often in brown and white alone, embodying therein the different local colours; and as local colours are represented in the intermediate spaces between light and shade, both all the high lights, and all the deep shadows, are of one uniform colour, which produces a wonderful tone. This principle is variously applied; by Rembrandt, perhaps, with perfect success.

It will be evident, upon experiment, how much of the charm in old pictures is due to this; for, although time has evidently aided in producing the same effect, they bear witness to this principle having been much known and practised.

We have seen pictures by the old masters, wherein it was found, upon removing the rich outer coat of glazing, that they had been painted entirely with brown and white, and the local colours laid on afterwards (more strength being given in the half tints than elsewhere) in a transparent medium. This was entirely the process with respect to some draperies, the intense shadows being glazed afterwards with asphaltum. To apply these observations to our present purpose, let the brightest lights and deepest shadows partake of a similarity of colour. In some pictures by our best miniature painters, there is as much tone as in any oil painting. In some very fine ones, remarkable for brilliancy of colour, the shadows are of a yellowish brown, even the shadows of blue drapery, the lights being made of yellow, red, and white.

But those who would prove the truth of this important principle, should place a picture thus treated by the side of one wherein the local colour is carried throughout objects, where the effect is dead and heavy. All appears dark on account of the imperfect imitation of the effects produced by light. The effect is dead and heavy. The shadows vary



from the lights in nothing but depth, and seem to have the same colour intensified; the lights, too, are equally crude. Every object in such a picture will appear as though it had been steeped in a dye trough, and as if no light had ever shone upon it; whilst the other picture steals upon the eye in soft harmony, as fall melodious sounds in rich concord upon the ear.

And, moreover, as so much of the picture is subdued, what real colour there is will appear to greater advantage, than if gaudiness and crudeness pervaded throughout.

There are painters so ignorant of or opposed to this method of treating a painting, that in representing a piece of (say, blue) drapery, they make it light blue in the lights, darker blue in the half tints, and in deep shade the deepest blue they can make it.

It is often found that such coarse treatment arises from a corresponding want of nice feeling on the part of the painter, coupled with an incapacity to see delicate effects of colour; for no man is expected to represent that which he does not see.

#### THE FIGURE.

A photographer generally places his sitter in that position which secures the greatest steadiness—a sitting posture is the most common; as in this case the figure comes forward more than the head.

Now, as all projecting parts become in the camera too large in proportion to those receding, we see the reason of the body being too large. The same cause accounts for large hands in photographs, and, where the face is turned up, for the lower parts of a head, chin, mouth, nose end, &c., being too large, whilst the eyes, forehead, and top of head are too small.

If a lady be sitting in a half reclining posture, bending forwards slightly, her whole head and shoulders will be too large, her figure downwards too small. If a gentleman be sitting backwards, on the other hand, he will have his hips too broad, his shoulders too narrow; both of these positions are very common.

We must not be misunderstood as stating these things in disparagement of so beautiful a science as photography *becomes in the hands* of experienced practitioners; but rather

let us be understood as endeavouring to point out some "effects defective," which generally are seen in photographs, especially large ones, that those who will may, knowing the cause, obviate them; and that the colorist may correct with his brush defects which, if allowed to remain, spoil any picture. For instance, where a head is so irregular in form as to become unsightly, soften those features which are the most strikingly deformed, and reduce the head to a greater semblance of beauty. Try to discover what good points there are—for all heads have some good points—and give these their full value.

To show the better how to correct these deformities, here are some general rules for making a figure symmetrical. A well-formed female has a rather small head, long taper thin neck, narrow across the shoulders, plump bust, broad hips, short round arms, small fleshy hands, taper fingers, at every joint round and smooth. A manly figure has a larger head, thicker neck, broad shoulders, narrow hips, muscular arms, and square joints.

#### TO REMEDY OTHER DEFECTS.

From the circumstance of blue and white possessing so much of the actinic principle, all fair, pale people make the brightest and best photographs: whilst the ruddy and sallow make dark ones. Often is it seen that a fair young person, with *round* rosy cheeks, produces in the picture an almost *flat* cheek, from the *red* in the cheek having produced a dark tone. This the artist will remedy by painting it up in finishing with a little body colour, white, vermilion, and carmine, or otherwise, as required to suit the complexion.

As just stated, the red or sallow face makes a dark photograph; in painting choose as light a copy as possible to paint upon. During the progress of your picture the freckles and much of the dark tone will disappear; but if, in finishing, they should be found still to show, and the blackness prevents your obtaining that brilliancy of colour required to approach nature, you may, with medium, stipple upon those places which still seem dingy and grey. This will enable you to produce the bright tints wanted, and will entirely hide any displeasing appearance of a wrong complexion.

## DRAPERIES.

*Black Cloth.*—With lake and ivory black go over the most intense shadows of your photograph, taking care to keep every fold as near as possible in its present place and form; for no amount of after pains will enable you to equal the truthfulness of a photograph in its representation of texture, or the accurate forms of folds necessary to make out the true character of the particular material represented. Having done this when dry, go over what you had touched with medium or gum. Next take ivory black, a little lake, and white, mix well together into an opaque body, much lighter than upon comparison with cloth would appear necessary, to allow for sinking, and for the gum to be passed over, which deepens it much. With this go over the entire coat, keeping out of the black shadows already laid on.

When dry go over again with gum; then take the same colour, with more white and a little vermilion, to give the peculiar glossy colour seen in the lights of black cloth, touch them on with the colour partially dry, to give a sort of crispness of touch.

What remains now to be done is simply to take pure lake, black and medium, thin, and to glaze or shade between the aforesaid body-colour half tints, and the intense shadows in your picture, where the transition from light to shade appears too sudden, for the purpose of rounding up the folds.

Do not allow the edges of your coat to cut black against the background, but softly edge it with light. However, if the dark guide lying beside you is strictly adhered to in these respects, the results must be correct.

In all cloths the same process must be adopted, or the following, which, however, is not so effective, but is easier of management:—Take a semi-transparent wash, say (in case of black cloth) ivory black and a little white, mixed to the required tone, wash over the whole; when dry, gum over; then, with a sort of half tint, made of lake, indigo, and sepia, wash in the general anatomy of the folds. The same colour, with sepia added, and gum, may serve to touch in the deepest shadows.

In either method you use opaque colours for the lights, and transparent ones for the shadows.

Camel hair pencils are better for painting cloth; sables being harder, are liable to leave markings, although for every other process sables are far preferable.

*Curtains*, and any other objects meant to recede, are made to sink into a background, by being painted thinly over, after the background is nearly finished.

*Velvets*.—The peculiarity of velvet is its roundness of folds, the intensity of shadow, and those shadows falling on that which in cloth fabrics would be lights, whilst the bright lights appear on the edges of folds; which latter peculiarity results from its tendency to absorb light. In the finest qualities of velvets these peculiarities are in excess.

*Silks and Satins*.—Satin is distinguished from silk by the heavy richness of its folds, the large and square breaks in the fold, which are broader than those of silk, the high lights, and the pure intensity of its jet-black transparent shadows. Silk being thinner, is sooner broken in form, and is consequently full of every species of angular sparkling lights. It has a greater number, and therefore smaller folds.

*Muslin* well painted is always an agreeable object in pictures, from its transparent nature affording opportunity for much soft delicacy of colouring, as all objects appearing through it become chastened by its whiteness. The general colour of muslin is pure white in the lights, bluish half tints, thin purple tints between these and the shadow, and the shadows a soft pale grey; but the deep shadows will partake more than any other part of the colour of whatever object is underneath the muslin, because it reflects the least possible amount of its own colour there, and only shows that which is underneath. It has ever been considered difficult to paint muslin; and, we believe, from the fact that many painters do not consider sufficiently well its nature.

Indeed, there is every necessity to philosophise in everything upon which we are engaged; and never more so than in matters of art. And wheresoever a difficulty presents itself, a little reason will be found to be worth much practice.

There are people who, from extreme practice, get to paint certain things tolerably well, mostly by imitating others, but not knowing the real nature of what they attempt to do, they never get beyond a limited point of excellence.

Those who rise to excellence are men of thoughtful character, who have a definite reason for every touch they

give a work, who see and know why certain appearances in nature do exist. Those are modest men, too, for they do not attempt subjects of which they are ignorant.

In truth, it is found that a good artist, one who deserves that name, is a man of almost universal knowledge of things relative to nature and natural science, whether by intuition of genius or education.

THE END.

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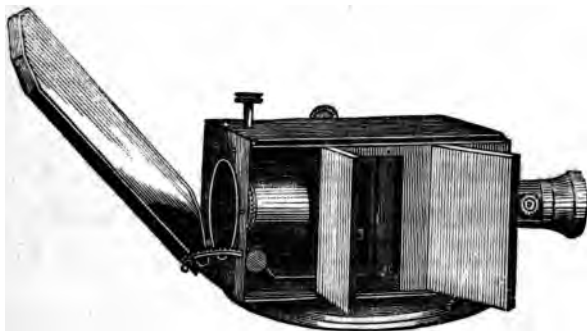
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Ditto	24 ditto	14	0	18	0
Ditto	12 Whole Cakes	12	0	16	0
Ditto	18 ditto	20	0	24	0
Ditto	24 ditto	24	0	30	0
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Ditto	18 ditto	14	0	18	0
Ditto	24 ditto	18	0	25	0
Ditto	12 Whole Cakes	16	0	20	0
Ditto	18 ditto	22	0	28	0
Ditto	24 ditto	31	6	42	0
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Ditto	16 ditto	...	15	0	20	0
Ditto	18 ditto	...	17	0	22	0
Ditto	10 Whole Cups	...	15	0	20	0
Ditto	12 ditto	...	18	0	25	0
Ditto	16 ditto	...	25	0	35	0
Ditto	18 ditto	...	31	6	40	0

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Ditto	16 ditto, size, $9\frac{1}{2} \times 6\frac{1}{2}$ , and $2\frac{1}{2}$ deep	...	1	15	0
Ditto	20 ditto, size, $11 \times 8$ , and $2\frac{1}{2}$ deep	...	2	6	0
Ditto	27 ditto, size, $13 \times 8\frac{1}{2}$ , and $2\frac{1}{2}$ deep	...	3	10	0
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